Advanced Function Presentation

Application Programming Interface: COBOL Language Reference

S544-3873-02

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Note!

Before using this information and the product it supports, be sure to read the general information in “Notices” on page v.

Third Edition (February 1996)

This edition applies to Print Services Facility/MVS Version 2 Release 2 Modification 0, Print Services Facility/VM Version 2 Release 1 Modification 1, Print Services Facility/VSE Version 2 Release 2 Modification 1, and to all subsequent releases and modifications until otherwise indicated in new editions or technical newsletters. See the Summary of Changes for the changes made to this publication. Technical changes or additions to the text and illustrations are indicated by a vertical line to the left of the change. Be sure to use the correct edition for the level of the product.

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Programming Interfaces

This publication is intended to help the customer to program Advanced Function Presentation (AFP) applications with the COBOL programming language. The publication documents General-Use Programming Interface and Associated Guidance Information provided by AFP Application Programming Interface (AFP API).

General-use programming interfaces allow the customer to write programs that obtain the services of AFP API.

Trademarks

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Advanced Function Presentation
AFP
BookManager
CICS
CICS/ESA
IBM
MO:DCA
Print Services Facility
PSF

Summary of Changes

In addition to editorial changes, the following changes are included in this edition of the publication, S544-3873-02:

- Changes documented in the *Print Services Facility/MVS: Update Guide*, G544-3984-00, are incorporated.
- Support for output buffering is added. Changes include:
  - The Set Output Characteristics procedure call allows you to request output buffering in the Output Filename parameter. You can also request that AFP API discard the output.
  - The new Get Output Buffer procedure call returns the AFP buffered output to your application program.
  - A new perform, AFPGBUF, is included in APQPERF.
  - New return codes 280, 281, and 282 are defined in APQRCS.
  - New variables are defined in APQVARS.
  - New constants are defined in APQCONST.
  - Sample COBOL program APQGETB is included.
- Support for the Customer Information Control System (CICS/ESA) running in the MVS environment is added. Changes include:
  - The Set Output Characteristics procedure call allows you to name the CICS/ESA temporary storage queue in the Output Filename parameter.
  - The Include Object procedure call is not supported.
  - The Set Resource Library Names procedure call is ignored.
  - Sample COBOL programs APQCISMP and APQCISMB are included.
- Support for querying the size of a character string is added. Changes include:
  - The new Query Character String Size procedure call returns the size of the area required to print a character string in the current font
  - A new perform, AFPQSTR, is included in APQPERF.
  - New return codes 284 and 285 are defined in APQRCS.
  - New variables are defined in APQVARS.
- You can now issue the Define Row and the Define Field procedure calls *only* in the document state. You can no longer issue these calls in the page or area state.
- You can issue the Put Area procedure call *only* in the page state, not in the area state.
- You must set the Concatenate parameter to TRU on the first Put Text procedure call in a field or paragraph.
- The trace function is removed from the Initialize AFP procedure call.
- The sample program APQSAMP is included.
- An appendix listing related publications is included.

Technical changes made to the text in this edition are indicated by a vertical line to the left of the changes.

Changes in the previous edition, S544-3873-01, described support for the VSE operating system.

Chapter 1. Introduction

Please Read

If you are not familiar with Advanced Function Presentation or with the AFP Application Programming Interface product (AFP API), refer to *AFP Application Programming Interface: Programming Guide and Reference* before using this publication. You must understand AFP concepts and the principles of AFP API before you can understand and use these language bindings.

This publication contains the following:

- The COBOL language bindings for AFP Application Programming Interface (AFP API).
- The COBOL source code shipped with AFP API for the sample document. APQSAMP2 is the sample used in *AFP Application Programming Interface: Programming Guide and Reference* to describe the functions of AFP API.
- The COBOL source code to show how to use the buffered-output function of AFP API. This source code is not shipped with AFP API.
- The COBOL source code shipped with AFP API for CICS/ESA.
- The copy books shipped with AFP API. Copy books are files shipped with AFP API to aid in developing user programs. The files contain such items as AFP API variables, return codes, constants for variables, paragraphs that invoke AFP API procedures, and other programs and subprograms.

Copy Book Files Shipped with AFP API

The following copy books are shipped with AFP API to help you develop your programs. See Appendix A, “COBOL Macros Used as Programming Interfaces” on page 125 for the contents of the copy books.

Copy Book	*Description*
APQCONST	Contains constants that AFP API uses.
APQRCS	Contains return codes that AFP API generates.
APQVARS	Contains variables that AFP API uses.
APQPERF	Contains paragraphs that invoke the AFP API procedures. Upon return from an AFP API procedure, AFP API examines the severity code. If the code is SEVERE or FATAL, AFP API does the following: • At SYSOUT, displays the name of the AFP API procedure call in error and its associated return code and severity code • Issues AFPTERM to terminate AFP API, which prints any partial page and generates a STOP RUN statement that terminates the COBOL program **Note:** APQPERF ignores WARNING severity codes. Your program must check for these codes.

APQSTRL	Contains the STRING-LENGTH program that determines the string length and inserts the length in the AFP-STRING-LENGTH parameter.
APQTRIM	Contains the TRIM subprogram, which strips off unnecessary leading and trailing blanks in the data for correct formatting, counts the characters (length) of a character string, inserts the trimmed string in the AFP-CHARACTER-STRING parameter of the AFPPCHS procedure call, and inserts the length in the AFP-STRING-LENGTH parameter.

Other Files Shipped with AFP API

In addition to the copy files described earlier, the following AFP API files are shipped with AFP API and are used to create sample documents.

APQSAMP	COBOL source - Installation Verification Program (performs)
APQSAMP2	COBOL source (calls)
APQCISMB	COBOL source - Installation Verification Program for CICS/ESA (buffered output)
APQCISMP	COBOL source - Installation Verification Program for CICS/ESA
APQDATA	Data file for APQSAMP and APQSAMP2
APQCOCOB	JCL to compile and link APQSAMP
APQIVCOB	JCL to run APQSAMP
APQCOSMB	JCL to translate, compile, and link APQCISMB
APQCOSMP	JCL to translate, compile, and link APQCISMP
APQPSEG	Page segment (PRIMO artwork)
O1APQL2	Overlay (shaded summary box)
IOCAMMR	Image object used to describe AFPIOBJ (Include Object). This object is not included in the sample output. It is distributed with PSF but is not distributed on the AFP API tape.

Chapter 2. COBOL Language Bindings

This chapter contains information on the COBOL subprogram symbolics, syntax rules, constants, and definitions for each of the AFP API procedure calls.

- Syntax elements for each procedure call must be in the order given.
- All syntax elements are required.
- If any syntax elements are missing or are out of order, an addressing exception will probably occur.
- All procedure calls must end with a period.

The generic data types are mapped to COBOL data types, with valid value ranges given (unless specified otherwise in the binding statements) as follows:

HANDLE PIC 9(8) BINARY

TOKEN PIC X(8) CHARACTER

FILENAME_TOKEN PIC X(8) CHARACTER

FILETYPE_TOKEN PIC X(8) CHARACTER

FILEMODE_TOKEN PIC X(2) CHARACTER

BOOLEAN PIC 9(8) BINARY

STRING PIC X(max string length) CHARACTER

CHARACTER PIC X CHARACTER

REAL PIC 9(5)V9(4) BINARY

The following list describes the valid values for all parameters of type REAL (PIC 9(5)V9(4)):

0.0 to 5918.0 when using millimeters
0.0 to 591.0 when using centimeters
0.0 to 233.0 when using inches
0.0 to 55924.0 when using 240 units per inch
0.0 to 99999.9999 when using 1440 units per inch

SREAL PIC S9(5)V9(4) BINARY

The following list describes the valid values for all parameters of type SREAL (PIC S9(5)V9(4)):

-1.0 and 0.0 to 5918.0 when using millimeters
-1.0 and 0.0 to 591.0 when using centimeters
-1.0 and 0.0 to 233.0 when using inches
-1.0 and 0.0 to 55924.0 when using 240 units per inch
-1.0 and 0.0 to 99999.9999 when using 1440 units per inch

INTEGER4 PIC 9(8) BINARY

SGLARRAY A 1-dimensional table of PIC 9(5)V9(4) whose size varies, depending upon input parameters.

MULTARRAY A 2-dimensional table of PIC 9(8) BINARY whose size varies, depending upon input parameters.

Column headings in the tables mean the following:

Parameters AFP API input and output parameters. Copy file APQVARS defines these parameters, and copy file APQPERF contains paragraphs that use them. You can invoke these paragraphs in your program, so you don't need to write the code for these calls yourself.

Picture Clause General characteristics and editing requirements of an elementary item. See APQVARS for the initial values assigned to the variables.

Description Additional information about the parameters. Copy file APQCONST contains the constant identifiers shown in bold.

Notes:

1. The COBOL compiler does not generate an error if you assign a negative value to an unsigned integer (for example, PIC 9(8)). Instead, the compiler drops the sign and uses a positive number.
2. The sample code in Chapter 3, "COBOL Sample Code" and Chapter 4, "COBOL Sample Code for CICS/ESA" uses BY CONTENT and BY REFERENCE statements that VS COBOL II recognizes but that the earlier version of OS COBOL does not.
3. For parameters that have an identifier as a valid value (for example, ORIENT0 in AFPBDOC), you can use the numeric literal for that identifier (for example, 0) instead of the identifier. Or you can use another identifier whose numeric literal is the same (for example, ROTATE0 in the APQCONST copy book also has a numeric literal of 0).
4. Whenever a procedure call requires the *Current* handle, your application program must copy the value returned by the appropriate AFPINIT, AFPBDOC, AFPBPAGE, AFPBPAR, or AFPBTBL procedure calls to the AFP-CURRENT-HANDLE parameter. Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a description of the current handle.
5. The sample programs, installation verification program, and copy-book files shipped with AFP API use the double quote (″), not the single quote (′), as the delimiter character for literals and rely on the QUOTE default COBOL compile option. If your installation has set APOST as the default, you will either have to modify the samples shipped with AFP API or have to specify the QUOTE option at compile time.

AFPBDOC (Begin Document)

```
CALL "AFPBDOC" USING
                    AFPAPI-HANDLE
                    AFP-UNIT-OF-MEASURE
                    AFP-DOC-PAGE-WIDTH
                    AFP-DOC-PAGE-DEPTH
                    AFP-PAGE-ORIENTATION
                    AFP-DOCUMENT-HANDLE
                    AFP-RET-CODE
                    AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-UNIT-OF-MEASURE	PIC 9(8) BINARY	The unit of measure: **INCH** Inches **MM** Millimeters **CM** Centimeters **U240** 240 units per inch **U1440** 1440 units per inch **Note:** The output file generated by AFP API is in logical units of 1440 per inch, even if you specify a different unit of measure in this parameter.
AFP-DOC-PAGE-WIDTH	PIC 9(5)V9(4) BINARY	The width of the logical page. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-DOC-PAGE-DEPTH	PIC 9(5)V9(4) BINARY	The depth of the logical page. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-PAGE-ORIENTATION	PIC 9(8) BINARY	The orientation of the logical page: **ORIENT0** 0° orientation **ORIENT90** 90° orientation **ORIENT180** 180° orientation **ORIENT270** 270° orientation

Output Parameters	Picture Clause	Description
AFP-DOCUMENT-HANDLE	PIC 9(8) BINARY	Returned by AFPBDOC and required on various subsequent procedure calls such as AFPBPAG
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPBFLD (Begin Field)

```
CALL "AFPBFLD" USING AFPAPI-HANDLE
                     AFP-TABLE-HANDLE
                     AFP-FIELD-ID
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-TABLE-HANDLE	PIC 9(8) BINARY	Table handle (returned by AFPBTBL)
AFP-FIELD-ID	PIC 9(8) BINARY	ID for the field (returned by AFPDFLD)

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPBGRP (Begin Group)

```
CALL "AFPBGRP" USING AFPAPI-HANDLE
                     AFP-DOCUMENT-HANDLE
                     AFP-GROUP-NAME
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-DOCUMENT-HANDLE	PIC 9(8) BINARY	Document state handle (returned by AFPBDOC)
AFP-GROUP-NAME	PIC X(64) CHARACTER	A 64-byte character string padded on the right with blanks, if the actual group name is fewer than 64 bytes long

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPBPAG (Begin Page)

```
CALL "AFPBPAG" USING AFPAPI-HANDLE
                     AFP-DOCUMENT-HANDLE
                     AFP-PAGE-WIDTH
                     AFP-PAGE-DEPTH
                     AFP-PAGE-ORIENTATION
                     AFP-PAGE-HANDLE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-DOCUMENT-HANDLE	PIC 9(8) BINARY	Document handle (returned by AFPBDOC)
AFP-PAGE-WIDTH	PIC S9(5)V9(4) BINARY	The width of the logical page. **AFP-DEFAULT** Use the page width specified on AFPBDOC. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-PAGE-DEPTH	PIC S9(5)V9(4) BINARY	The depth of the logical page. **AFP-DEFAULT** Use the page depth specified on AFPBDOC. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-PAGE-ORIENTATION	PIC 9(8) BINARY	The orientation of the logical page: **ORIENTDOC** Use the orientation specified on AFPBDOC. **ORIENT0** 0° orientation **ORIENT90** 90° orientation **ORIENT180** 180° orientation **ORIENT270** 270° orientation

Output Parameters	Picture Clause	Description
AFP-PAGE-HANDLE	PIC 9(8) BINARY	Returned by AFPBPAG and required on various subsequent procedure calls such as AFPPCHS
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPBPAR (Begin Paragraph)

```
CALL "AFPBPAR" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-FIRST-LINE-INDENT
                     AFP-FORMAT-OPTION
                     AFP-FIRST-LINE-OFFSET
                     AFP-LEFT-MARGIN
                     AFP-LINE-LENGTH
                     AFP-LINE-SPACING
                     AFP-PARAGRAPH-FRAME
                     AFP-RT-RULE-OFFSET
                     AFP-BOT-RULE-OFFSET
                     AFP-SHADING-PATTERN
                     AFP-SHADING-INTENSITY
                     AFP-PARAGRAPH-HANDLE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBPAG or AFPCARE)
AFP-FIRST-LINE-INDENT	PIC S9(5)V9(4) BINARY	The amount to indent text. Valid values for this parameter are: • A value between -5918.0 and 5918.0 when using millimeters • A value between -591.0 and 591.0 when using centimeters • A value between -233.0 and 233.0 when using inches • A value between -55924.and 55924.0 when using 240 units per inch • A range between -99999.9999 and 99999.9999 when using 1440 units per inch
AFP-FORMAT-OPTION	PIC 9(8) BINARY	The type of formatting: **FOLEFT** Left aligned paragraph (ragged right) **FOCENTER** Centered paragraph **FORIGHT** Right aligned paragraph (ragged left) **FOJUSTIFY** Justified paragraph
AFP-FIRST-LINE-OFFSET	PIC S9(5)V9(4) BINARY	The offset of the first line of text. **AFP-DEFAULT** Use the default for the first line offset. See SREAL on page 3 for a list of valid values.
AFP-LEFT-MARGIN	PIC 9(5)V9(4) BINARY	The offset of the left margin from the paragraph origin. See REAL on page 3 for a list of valid values.

Input Parameters	Picture Clause	Description
AFP-LINE-LENGTH	PIC 9(5)V9(4) BINARY	The length of a line. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-LINE-SPACING	PIC S9(5)V9(4) BINARY	The spacing between lines. **AFP-DEFAULT** Use the default line space. See SREAL on page 3 for a list of valid values.
AFP-PARAGRAPH-FRAME	PIC 9(8) BINARY	**TRU** Enclose the paragraph in a frame. **FALS** Don't enclose the paragraph in a frame.
AFP-RT-RULE-OFFSET	PIC 9(5)V9(4) BINARY	The offset of the right vertical rule from the paragraph origin. See REAL on page 3 for a list of valid values.
AFP-BOT-RULE-OFFSET	PIC S9(5)V9(4) BINARY	The offset of the bottom horizontal rule from the last line in the paragraph. **AFP-DEFAULT** Use the default bottom rule offset. See SREAL on page 3 for a list of valid values.
AFP-SHADING-PATTERN	PIC 9(8) BINARY	The shading pattern: **STNDARD** Use the standard shading pattern. **SCREEN** Use the screen shading pattern. **NOSHADE** Don't use a shading pattern.
AFP-SHADING-INTENSITY	PIC 9(8) BINARY	The shading intensity: 0–100

Output Parameters	Picture Clause	Description
AFP-PARAGRAPH-HANDLE	PIC 9(8) BINARY	Returned by AFPBPAR and required on various subsequent procedure calls such as AFPPTXT
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPBROW (Begin Row)

```
CALL "AFPBROW" USING AFPAPI-HANDLE
                     AFP-TABLE-HANDLE
                     AFP-ROW-ID
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-TABLE-HANDLE	PIC 9(8) BINARY	Table handle (returned by AFPBTBL)
AFP-ROW-ID	PIC X(9) CHARACTER	ID for the row (returned by AFPDROW)

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPBTBL (Begin Table)

```
CALL "AFPBTBL" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-TABLE-WIDTH
                     AFP-MAX-TABLE-DEPTH
                     AFP-TABLE-ROTATION
                     AFP-TOP-THICKNESS
                     AFP-BOTTOM-THICKNESS
                     AFP-LEFT-THICKNESS
                     AFP-RIGHT-THICKNESS
                     AFP-TABLE-HANDLE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBPAG or AFPCARE)
AFP-TABLE-WIDTH	PIC 9(5)V9(4) BINARY	The width of the table. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-MAX-TABLE-DEPTH	PIC 9(5)V9(4) BINARY	The depth of the table. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-TABLE-ROTATION	PIC 9(8) BINARY	The rotation of the table: **ROTATE0** 0° rotation. **ROTATE90** Rotate the table 90°. **ROTATE180** Rotate the table 180°. **ROTATE270** Rotate the table 270°.
AFP-TOP-THICKNESS	PIC 9(5)V9(4) BINARY	The thickness of the top horizontal rule. See REAL on page 3 for a list of valid values.
AFP-BOTTOM-THICKNESS	PIC 9(5)V9(4) BINARY	The thickness of the bottom horizontal rule. See REAL on page 3 for a list of valid values.
AFP-LEFT-THICKNESS	PIC 9(5)V9(4) BINARY	The thickness of the left vertical rule. See REAL on page 3 for a list of valid values.

Input Parameters	Picture Clause	Description
AFP-RIGHT-THICKNESS	PIC 9(5)V9(4) BINARY	The thickness of the right vertical rule. See REAL on page 3 for a list of valid values.

Output Parameters	Picture Clause	Description
AFP-TABLE-HANDLE	PIC 9(8) BINARY	Returned by AFPBTBL and required on various subsequent procedure calls such as AFPBROW
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPCARE (Create Area)

```
CALL "AFPCARE" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-AREA-WIDTH
                     AFP-MAX-AREA-DEPTH
                     AFP-AREA-FRAME
                     AFP-SHADING-PATTERN
                     AFP-SHADING-INTENSITY
                     AFP-AREA-HANDLE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBDOC or AFPBPAG)
AFP-AREA-WIDTH	PIC 9(5)V9(4) BINARY	The width of the area. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-MAX-AREA-DEPTH	PIC 9(5)V9(4) BINARY	The depth of the area. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-AREA-FRAME	PIC 9(8) BINARY	**TRU** Enclose the area in a frame. **FALS** Don't enclose the area in a frame.
AFP-SHADING-PATTERN	PIC 9(8) BINARY	The shading pattern: **STNDARD** Use the standard shading pattern. **SCREEN** Use the screen shading pattern. **NOSHADE** Don't use a shading pattern.
AFP-SHADING-INTENSITY	PIC 9(8) BINARY	The shading intensity: 0–100

Output Parameters	Picture Clause	Description
AFP-AREA-HANDLE	PIC 9(8) BINARY	Returned by AFPCARE and required on various subsequent procedure calls such as AFPPCHS
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPDFLD (Define Field)

```
CALL "AFPDFLD" USING AFPAPI-HANDLE
                     AFP-DOCUMENT-HANDLE
                     AFP-FORMAT-OPTION
                     AFP-ALIGNMENT-POSITION
                     AFP-VERTICAL-FORMAT
                     AFP-LEFT-MARGIN
                     AFP-RIGHT-MARGIN
                     AFP-LINE-SPACING
                     AFP-TEXT-ORIENTATION
                     AFP-SHADING-PATTERN
                     AFP-SHADING-INTENSITY
                     AFP-TOP-THICKNESS
                     AFP-BOTTOM-THICKNESS
                     AFP-LEFT-THICKNESS
                     AFP-RIGHT-THICKNESS
                     AFP-FIELD-ID
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-DOCUMENT-HANDLE	PIC 9(8) BINARY	Document handle (returned by AFPBDOC)
AFP-FORMAT-OPTION	PIC 9(8) BINARY	The type of formatting: **FOLEFT** Left aligned text (ragged right) **FOCENTER** Centered text **FORIGHT** Right aligned text (ragged left) **FOJUSTIFY** Justified text
AFP-ALIGNMENT-POSITION	PIC 9(5)V9(4) BINARY	The position for character alignment. See REAL on page 3 for a list of valid values.
AFP-VERTICAL-FORMAT	PIC 9(8) BINARY	The vertical alignment option: **VERTOP** Align the text at the top of the field **VERCENTER** Align the text in the center of the field **VERBOTTOM** Align the text at the bottom of the field
AFP-LEFT-MARGIN	PIC 9(5)V9(4) BINARY	The left margin for the lines of text. See REAL on page 3 for a list of valid values.
AFP-RIGHT-MARGIN	PIC 9(5)V9(4) BINARY	The right margin for the lines of text. See REAL on page 3 for a list of valid values.
AFP-LINE-SPACING	PIC S9(5)V9(4) BINARY	The spacing between lines of text. **AFP-DEFAULT** Use the default line space. See SREAL on page 3 for a list of valid values.
AFP-TEXT-ORIENTATION	PIC 9(8) BINARY	The orientation of the text: **TXTOR0-0** 0, 0 text orientation **TXTOR90-180** 90, 180 text orientation **TXTOR180-270** 180, 270 text orientation **TXTOR270-0** 270, 0 text orientation
AFP-SHADING-PATTERN	PIC 9(8) BINARY	The shading pattern: **STNDARD** Use the standard shading pattern. **SCREEN** Use the screen shading pattern. **NOSHADE** Don't use a shading pattern.

Input Parameters	Picture Clause	Description
AFP-SHADING-INTENSITY	PIC 9(8) BINARY	The shading intensity: 0–100
AFP-TOP-THICKNESS	PIC 9(5)V9(4) BINARY	The thickness of the top horizontal rule. See REAL on page 3 for a list of valid values.
AFP-BOTTOM-THICKNESS	PIC 9(5)V9(4) BINARY	The thickness of the bottom horizontal rule. See REAL on page 3 for a list of valid values.
AFP-LEFT-THICKNESS	PIC 9(5)V9(4) BINARY	The thickness of the left vertical rule. See REAL on page 3 for a list of valid values.
AFP-RIGHT-THICKNESS	PIC 9(5)V9(4) BINARY	The thickness of the right vertical rule. See REAL on page 3 for a list of valid values.

Output Parameters	Picture Clause	Description
AFP-FIELD-ID	PIC 9(8) BINARY	Returned by AFPDFLD and required on subsequent AFPBFLD procedure calls
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPDFNT (Define Font by Attributes)

```
CALL "AFPDFNT" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-CODE-PAGE
                     AFP-DESC-NAME-LENGTH
                     AFP-DESCRIPTIVE-NAME
                     AFP-POINT-SIZE
                     AFP-WEIGHT
                     AFP-FONT-WIDTH
                     AFP-ROTATION
                     AFP-STYLE
                     AFP-FONT-ID
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBDOC, AFPBPAG, or AFPCARE)
AFP-CODE-PAGE	PIC X(8) CHARACTER	An 8-byte character string that's left-aligned and padded on the right with blanks, if the actual code page name is fewer than 8 bytes long
AFP-DESC-NAME-LENGTH	PIC 9(8) BINARY	Length of descriptive name: 1–32
AFP-DESCRIPTIVE-NAME	PIC X(32) CHARACTER	A 32-byte character string that's left-aligned and padded on the right with blanks, if the actual descriptive name is fewer than 32 bytes long
AFP-POINT-SIZE	PIC 9(8) BINARY	The height of a character
AFP-WEIGHT	PIC 9(8) BINARY	The weight of the font: **ULTRALIGHT** UltraLight **EXTRALIGHT** ExtraLight **LIGHT** Light **SEMILIGHT** SemiLight **MEDIUM** Medium **SEMIBOLD** SemiBold **BOLD** Bold **EXTRABOLD** ExtraBold **ULTRABOLD** UltraBold
AFP-FONT-WIDTH	PIC 9(8) BINARY	The thickness of the font: **ULTRACOND** UltraCondensed **EXTRACOND** ExtraCondensed **CONDENSED** Condensed **SEMICOND** SemiCondensed **NORMAL** Normal **SEMIEXP** SemiExpanded **EXPANDED** Expanded **EXTRAEXP** ExtraExpanded **ULTRAEXP** UltraExpanded
AFP-ROTATION	PIC 9(8) BINARY	The character rotation: **ROTATE0** 0° character rotation **ROTATE90** 90° character rotation **ROTATE180** 180° character rotation **ROTATE270** 270° character rotation

Input Parameters	Picture Clause	Description
AFP-STYLE	PIC 9(8) BINARY	The style of the font: **ROMAN** Roman **ITALIC** Italic

Output Parameters	Picture Clause	Description
AFP-FONT-ID	PIC X(9) CHARACTER	ID for the font, returned by AFPDFNT and used on subsequent procedure calls such as AFPSFNT
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPDROW (Define Row)

```
CALL "AFPDROW" USING AFPAPI-HANDLE
                     AFP-DOCUMENT-HANDLE
                     AFP-MIN-SUBROW-DEPTH-ARRAY
                     AFP-TOP-THICKNESS
                     AFP-BOTTOM-THICKNESS
                     AFP-NUMBER-COLUMNS
                     AFP-NUMBER-SUBROWS
                     AFP-ROW-ARRANGE-ARRAY
                     AFP-COLUMN-WIDTH-ARRAY
                     AFP-ROW-ID
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-DOCUMENT-HANDLE	PIC 9(8) BINARY	Document handle (returned by AFPBDOC)
AFP-MIN-SUBROW-DEPTH-ARRAY	03 AFP-MIN-SUBBROW-DEPTH-ARRAY. 10 AFP-SUBROW-DEPTH OCCURS 1 TO 64 TIMES, DEPENDING ON AFP-NUMBER-SUBROWS PIC S9(5)V9(4) BINARY.	The minimum depth of each subrow in the row. AFP-MIN-SUBROW-DEPTH-ARRAY (n) contains the minimum depth of the nth subrow in the row. **AFP-DEFAULT** Use the default subrow depth. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch **Note:** When using a text orientation of 90° or 270° for a field in a subrow, the minimum subrow depth must be other than 0 or AFP-DEFAULT.
AFP-TOP-THICKNESS	PIC 9(5)V9(4) BINARY	The thickness of the top horizontal rule. See REAL on page 3 for a list of valid values.
AFP-BOTTOM-THICKNESS	PIC 9(5)V9(4) BINARY	The thickness of the bottom horizontal rule. See REAL on page 3 for a list of valid values.
AFP-NUMBER-COLUMNS	PIC 9(8) BINARY	Number of columns: 1–64
AFP-NUMBER-SUBROWS	PIC 9(8) BINARY	Number of subrows: 1–64

Input Parameters	Picture Clause	Description
AFP-ROW-ARRANGE-ARRAY	03 AFP-ROW-ARRANGE-ARRAY. 10 AFP-SUBROW-ARRANGE OCCURS 1 TO max-number-subrows TIMES, DEPENDING ON AFP-NUMBER-SUBROWS. 15 AFP-COLUMN-ARRANGE OCCURS 1 TO max-number-columns TIMES, DEPENDING ON AFP-NUMBER-COLUMNS PIC 9(8) BINARY.	The FIELD-IDs returned by the AFPDFLD calls for the fields that are to be used in each position of the row. AFP-ROW-ARRANGE-ARRAY(n,m) contains the field ID of the nth sub-row in the mth column. **Note:** The number of array elements in the AFP-ROW-ARRANGE-ARRAY (that is, the product of max-number-subrows and max-number-columns) cannot exceed 64.
AFP-COLUMN-WIDTH-ARRAY	03 AFP-COLUMN-WIDTH-ARRAY. 10 AFP-COLUMN-WIDTH OCCURS 1 TO 64 TIMES, DEPENDING ON AFP-NUMBER-COLUMNS PIC 9(5)V9(4) BINARY.	The width of each column in the row. COLUMN-WIDTH-ARRAY(n) contains the width of the nth column in the row. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch

Output Parameters	Picture Clause	Description
AFP-ROW-ID	PIC X(9) CHARACTER	ID returned for the row. The ID is used on subsequent AFPBROW procedure calls.
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

Note: The row arrangement, column widths, and subrow depth parameters for AFPDROW are represented as variable-size tables in the APQVARS copy file. Therefore, the size of these tables and their addresses in storage can change when the variables that control their size change (that is, AFP-NUMBER-COLUMNS and AFP-NUMBER-SUBROWS). When the size of the table changes, the contents of the table also changes. Whenever you change AFP-NUMBER-COLUMNS or AFP-NUMBER-SUBROWS to change the table size, you must reinitialize the table contents.

AFPEARE (End Area)

```
CALL "AFPEARE" USING AFPAPI-HANDLE
                     AFP-AREA-HANDLE
                     AFP-AREA-DEPTH
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-AREA-HANDLE	PIC 9(8) BINARY	Handle of the area to be ended (returned from AFPCARE)

Output Parameters	Picture Clause	Description
AFP-AREA-DEPTH	PIC 9(5)V9(4) BINARY	The depth of the area, returned in the current unit of measure. See REAL on page 3 for a list of valid values.
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPEDOC (End Document)

```
CALL "AFPEDOC" USING AFPAPI-HANDLE
                     AFP-DOCUMENT-HANDLE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT

Input/Output Parameters	Picture Clause	Description
AFP-DOCUMENT-HANDLE	PIC 9(8) BINARY	Document handle (returned from AFPBDOC)

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPEFLD (End Field)

```
CALL "AFPEFLD" USING AFPAPI-HANDLE
                     AFP-TABLE-HANDLE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-TABLE-HANDLE	PIC 9(8) BINARY	Table handle (returned by AFPBTBL)

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPEGRP (End Group)

```
CALL "AFPEGRP" USING AFPAPI-HANDLE
                     AFP-DOCUMENT-HANDLE
                     AFP-GROUP-NAME
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-DOCUMENT-HANDLE	PIC 9(8) BINARY	Document state handle (returned by AFPBDOC)
AFP-GROUP-NAME	PIC X(64) CHARACTER	A 64-byte character string padded on the right with blanks, if the actual group name is fewer than 64 characters long

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPEND (End AFPAPI)

```
CALL "AFPEND" USING AFPAPI-HANDLE
                    AFP-RET-CODE
                    AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPEPAG (End Page)

```
CALL "AFPEPAG" USING AFPAPI-HANDLE
                     AFP-PAGE-HANDLE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT

Input/Output Parameters	Picture Clause	Description
AFP-PAGE-HANDLE	PIC 9(8) BINARY	Page handle (returned from AFPBPAG)

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPEPAR (End Paragraph)

```
CALL "AFPEPAR" USING AFPAPI-HANDLE
                     AFP-PARAGRAPH-HANDLE
                     AFP-PARAGRAPH-DEPTH
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT

Input/Output Parameters	Picture Clause	Description
AFP-PARAGRAPH-HANDLE	PIC 9(8) BINARY	Paragraph handle (returned from AFPBPAR)

Output Parameters	Picture Clause	Description
AFP-PARAGRAPH-DEPTH	PIC 9(5)V9(4) BINARY	The depth of the paragraph, returned in the current unit of measure. See REAL on page 3 for a list of valid values.
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPEROW (End Row)

```
CALL "AFPEROW" USING AFPAPI-HANDLE
                     AFP-TABLE-HANDLE
                     AFP-CURRENT-TABLE-DEPTH
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-TABLE-HANDLE	PIC 9(8) BINARY	Table handle (returned by AFPBTBL)

Output Parameters	Picture Clause	Description
AFP-CURRENT-TABLE-DEPTH	PIC 9(5)V9(4) BINARY	The depth of the table, returned in the current unit of measure. See REAL on page 3 for a list of valid values.
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPETBL (End Table)

```
CALL "AFPETBL" USING AFPAPI-HANDLE
                     AFP-TABLE-HANDLE
                     AFP-TABLE-DEPTH
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT

Input/Output Parameters	Picture Clause	Description
AFP-TABLE-HANDLE	PIC 9(8) BINARY	Table handle (returned from AFPBTBL verb)

Output Parameters	Picture Clause	Description
AFP-TABLE-DEPTH	PIC 9(5)V9(4) BINARY	The depth of the table, returned in the current unit of measure. See REAL on page 3 for a list of valid values.
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPGBUF (Get Output Buffer)

```
CALL "AFPGBUF" USING
                    AFPAPI-HANDLE
                    AFP-DOCUMENT-HANDLE
                    AFP-BUFFER
                    AFP-BUFFER-LENGTH
                    AFP-MORE-RECORDS
                    AFP-RET-CODE
                    AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-DOCUMENT-HANDLE	PIC 9(8) BINARY	Document handle returned from AFPBDOC

Output Parameters	Picture Clause	Description
AFP-BUFFER	PIC X(*max buffer length*) CHARACTER	A buffer in which AFP API returns the next record (structured field) in the page. This parameter is defined in APQVARS as CHAR(8205).
AFP-BUFFER-LENGTH	PIC 9(8) BINARY	The length of the structured field returned in AFP-BUFFER
AFP-MORE-RECORDS	PIC 9(8) BINARY	**TRU** Another output record exists. Issue AFPGBUF again to get the next record. **FALS** No more output records exist.
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPINIT (Initialize AFPAPI)

```
CALL "AFPINIT" USING
                  AFPAPI-HANDLE
                  AFP-TRACE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFP-TRACE	PIC 9(8) BINARY	The trace facility is not supported; however, you must specify the AFP-TRACE parameter. Always set the value to FALS. **TRU** TRU is not supported. **FALS** Don't generate a trace file for this AFP API session.

Output Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Returned by AFPINIT and required on each subsequent AFPAPI call
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPINVM (Invoke Medium Map)

```
CALL "AFPINVM" USING
                  AFPAPI-HANDLE
                  AFP-DOCUMENT-HANDLE
                  AFP-MEDIUM-MAP-NAME
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Returned by AFPINIT and required on each subsequent AFPAPI call
AFP-DOCUMENT-HANDLE	PIC 9(8) BINARY	Returned by AFPBDOC
AFP-MEDIUM-MAP-NAME	PIC X(8) CHARACTER	An 8-byte character string padded on the right with blanks, if the actual medium map name is fewer than 8 bytes long

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPIOBJ (Include Object)

```
CALL "AFPIOBJ" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-OBJECT-NAME
                     AFP-OBJECT-WIDTH
                     AFP-OBJECT-DEPTH
                     AFP-OBJECT-ROTATION
                     AFP-OBJECT-MAPPING-OPTION
                     AFP-OBJECT-X-OFFSET
                     AFP-OBJECT-Y-OFFSET
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Note: This procedure call is not supported in a CICS/ESA environment; objects must be part of page segments and included using the AFPIPSG call.

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned from AFPBPAG or AFPCARE)
AFP-OBJECT-NAME	PIC X(8) CHARACTER	An 8-byte character string that's left-aligned and padded on the right with blanks, if the actual object name is fewer than 8 bytes long
AFP-OBJECT-WIDTH	PIC S9(5)V9(4) BINARY	The width of the object area. **AFP-DEFAULT** Use the width value specified in the object. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-OBJECT-DEPTH	PIC S9(5)V9(4) BINARY	The depth of the object area. **AFP-DEFAULT** Use the depth value specified in the object. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch

Input Parameters	Picture Clause	Description
AFP-OBJECT-ROTATION	PIC 9(8) BINARY	The rotation of the object area: **ROTATE-DEFAULT** Use the rotation specified in the object. **ROTATE0** 0° rotation. **ROTATE90** Rotate the object 90°. **ROTATE180** Rotate the object 180°. **ROTATE270** Rotate the object 270°.
AFP-OBJECT-MAPPING-OPTION	PIC 9(8) BINARY	**DEFAULT-MAP** Use the mapping option specified in the object. **SCALE-TO-FIT** Center the object within the area dimensions specified in AFP-OBJECT-WIDTH and AFP-OBJECT-DEPTH, and scale the object to fit within the area. **CENTER-AND-TRIM** Center the object within the area dimensions specified in AFP-OBJECT-WIDTH and AFP-OBJECT-DEPTH, and trim what falls outside the area. **POSITION-AND-TRIM** Position the object at the location specified in AFP-OBJECT-X-OFFSET and AFP-OBJECT-Y-OFFSET within the dimensions specified in AFP-OBJECT-WIDTH and AFP-OBJECT-DEPTH, and trim what falls outside the area. **POINT-TO-PEL** Position the object at the object area origin within the area dimensions specified in AFP-OBJECT-WIDTH and AFP-OBJECT-DEPTH, and trim what falls outside the area. No resolution correction is done; that is, each image point is mapped to a pel. **DOUBLE-DOT** Position the object at the object area origin within the area dimensions specified in AFP-OBJECT-WIDTH and AFP-OBJECT-DEPTH, and trim what falls outside the area. Each image point is doubled. No resolution correction is done; that is, each of the new image points is mapped to a pel. **Note:** Refer to *AFP Application Programming Interface: Programming Guide and Reference* for more information about the valid mapping options for IOCA and GOCA objects.

Input Parameters	Picture Clause	Description
AFP-OBJECT-X-OFFSET	PIC S9(5)V9(4) BINARY	The X offset of the object. **AFP-DEFAULT** Use the X-offset value specified in the object. See SREAL on page 3 for a list of valid values.
AFP-OBJECT-Y-OFFSET	PIC S9(5)V9(4) BINARY	The Y offset of the object. **AFP-DEFAULT** Use the Y-offset value specified in the object. See SREAL on page 3 for a list of valid values.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPIOVL (Include Page Overlay)

```
CALL "AFPIOVL" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-OVLY-NAME
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBPAG or AFPCARE)
AFP-OVLY-NAME	PIC X(8) CHARACTER	An 8-byte character string that's left aligned and padded on the right with blanks, if the actual overlay name is fewer than 8 bytes long

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPIPSG (Include Page Segment)

```
CALL "AFPIPSG" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-PSEG-NAME
                     AFP-INLINE-OPTION
                     AFP-REUSE-OPTION
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBPAG or AFPCARE)
AFP-PSEG-NAME	PIC X(8) CHARACTER	An 8-byte character string that's left aligned and padded on the right with blanks, if the actual page segment name is fewer than 8 bytes long
AFP-INLINE-OPTION	PIC 9(8) BINARY	**TRU** Bring the page segment inline as part of the page. **FALS** Don't bring the page segment inline, but simply reference it.
AFP-REUSE-OPTION	PIC 9(8) BINARY	**TRU** The page segment will be reused on multiple pages. **FALS** The page segment will not be reused on multiple pages.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPPARE (Put Area)

```
CALL "AFPPARE" USING AFPAPI-HANDLE
                     AFP-PAGE-HANDLE
                     AFP-AREA-HANDLE
                     AFP-AREA-ROTATION
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-PAGE-HANDLE	PIC 9(8) BINARY	Page handle (returned by AFPBPAG)
AFP-AREA-HANDLE	PIC 9(8) BINARY	Area handle (returned from AFPCARE)
AFP-AREA-ROTATION	PIC 9(8) BINARY	The rotation of the area: **ROTATE0** 0° rotation. **ROTATE90** Rotate the area 90°. **ROTATE180** Rotate the area 180°. **ROTATE270** Rotate the area 270°.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPPBOX (Put Box)

```
CALL "AFPPBOX" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-BOX-WIDTH
                     AFP-BOX-DEPTH
                     AFP-SHADING-PATTERN
                     AFP-SHADING-INTENSITY
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBPAG or AFPCARE)
AFP-BOX-WIDTH	PIC 9(5)V9(4) BINARY	The width of the box. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-BOX-DEPTH	PIC 9(5)V9(4) BINARY	The depth of the box. Valid values for this parameter are: • A value between 0.0002 and 5918.0 when using millimeters • A value between 0.0001 and 591.0 when using centimeters • A value between 0.0001 and 233.0 when using inches • A value between 0.0017 and 55924.0 when using 240 units per inch • A value between 0.0101 and 99999.9999 when using 1440 units per inch
AFP-SHADING-PATTERN	PIC 9(8) BINARY	The shading pattern: **STNDARD** Use the standard shading pattern. **SCREEN** Use the screen shading pattern. **NOSHADE** Don't use a shading pattern.
AFP-SHADING-INTENSITY	PIC 9(8) BINARY	The shading intensity: 0–100

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPPCHS (Put Character String)

```
CALL "AFPPCHS" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-STRING-LENGTH
                     AFP-CHARACTER-STRING
                     AFP-ALIGNMENT-OPTION
                     AFP-ALIGNMENT-CHAR
                     AFP-POSITION-OPTION
                     AFP-UNDERLINE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBPAG, AFPCARE, or AFPBTBL)
AFP-STRING-LENGTH	PIC 9(8) BINARY	The length of the character string: 1 – limit supported by your compiler
AFP-CHARACTER-STRING	PIC X(*max string length*) CHARACTER	A character string of length AFP-STRING-LENGTH. This parameter is defined in APQVARS as PIC X(160).
AFP-ALIGNMENT-OPTION	PIC 9(8) BINARY	The horizontal alignment option: **R-GHT** Right align the string. **L-FT** Left align the string. **CENTER** Center the string. **CHAR** Align the string around the character specified in AFP-ALIGNMENT-CHAR.
AFP-ALIGNMENT-CHAR	PIC X CHARACTER	The character for character alignment: any character except a blank.
AFP-POSITION-OPTION	PIC 9(8) BINARY	**TRU** Keep the position at the origin of the character string. **FALS** Don't keep the position at the origin of the character string, but move it to the end of the character string. **Note:** This parameter is used to create a line break when you place a character string in a table field. If set to TRU, the character string begins at the start of a new line.
AFP-UNDERLINE	PIC 9(8) BINARY	**TRU** Underline the character string. **FALS** Don't underline the character string.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPPRUL (Put Rule)

```
CALL "AFPPRUL" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-DIRECTION
                     AFP-RULE-LENGTH
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBPAG or AFPCARE)
AFP-DIRECTION	PIC 9(8) BINARY	The direction of the rule: **XDIRECTION** Draw a rule parallel to the X (inline) axis. **YDIRECTION** Draw a rule parallel to the Y (baseline) axis.
AFP-RULE-LENGTH	PIC 9(5)V9(4) BINARY	The length of the rule. See REAL on page 3 for a list of valid values.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPPTAG (Put Tag)

```
CALL "AFPPTAG" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-TAG-NAME
                     AFP-TAG-VALUE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBDOC or AFPBPAG)
AFP-TAG-NAME	PIC X(64) CHARACTER	A 64-byte character string padded on the right with blanks, if the actual tag name is fewer than 64 characters long
AFP-TAG-VALUE	PIC X(64) CHARACTER	A 64-byte character string padded on the right with blanks, if the actual tag value is fewer than 64 characters long

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPPTXT (Put Text)

```
CALL "AFPPTXT" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-STRING-LENGTH
                     AFP-CHARACTER-STRING
                     AFP-CONCATENATE
                     AFP-UNDERLINE
                     AFP-REMAINING-LENGTH
                     AFP-REMAINING-STRING
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBPAR or AFPBTBL)
AFP-STRING-LENGTH	PIC 9(8) BINARY	The length of the character string: 1 – limit supported by your compiler
AFP-CHARACTER-STRING	PIC X(*max string length*) CHARACTER	A character string of length AFP-STRING-LENGTH. This parameter is defined in APQVARS as PIC X(160).
AFP-CONCATENATE	PIC 9(8) BINARY	On the first AFPPTXT call in a field or paragraph, always set this parameter to TRU. On subsequent calls, set the parameter to TRU or FALS, depending on whether concatenation is desired. **TRU** Concatenate the character string in this AFPPTXT on the same line as the character string in the previous AFPPTXT (space permitting). **FALS** Don't concatenate the character string in this AFPPTXT with the string in the previous AFPPTXT. Instead, start a new line.
AFP-UNDERLINE	PIC 9(8) BINARY	**TRU** Underline the character string. **FALS** Don't underline the character string.

Output Parameters	Picture Clause	Description
AFP-REMAINING-LENGTH	PIC 9(8) BINARY	If the entire string would not fit, specifies the remaining length (characters not placed)
AFP-REMAINING-STRING	PIC X(*remaining length*) CHARACTER	Characters in the string that would not fit
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPQATT (Query Current Attributes)

```
CALL "AFPQATT" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-UNIT-OF-MEASURE
                     AFP-X-COORDINATE
                     AFP-Y-COORDINATE
                     AFP-COLOR
                     AFP-RULE-THICKNESS
                     AFP-FONT-ID
                     AFP-CHARACTER-SPACING
                     AFP-WORD-SPACING
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBDOC, AFPBPAG, or AFPCARE)

Output Parameters	Picture Clause	Description
AFP-UNIT-OF-MEASURE	PIC 9(8) BINARY	The current unit of measure: **INCH** Inches **MM** Millimeters **CM** Centimeters **U240** 240 units per inch **U1440** 1440 units per inch
AFP-X-COORDINATE	PIC 9(5)V9(4) BINARY	The X coordinate of the current position, returned in the current unit of measure. See REAL on page 3 for a list of valid values.
AFP-Y-COORDINATE	PIC 9(5)V9(4) BINARY	The Y coordinate of the current position, returned in the current unit of measure. See REAL on page 3 for a list of valid values.
AFP-COLOR	PIC 9(8) BINARY	The current color: **BLACK** Black **BLUE** Blue **RED** Red **MAGENTA** Magenta **GREEN** Green **CYAN** Cyan **YELLOW** Yellow **BROWN** Brown **MEDIA** Color of medium
AFP-RULE-THICKNESS	PIC 9(5)V9(4) BINARY	The current rule thickness. See REAL on page 3 for a list of valid values.
AFP-FONT-ID	PIC X(9) CHARACTER	The ID of the current font (returned by AFPDFNT)
AFP-CHARACTER-SPACING	PIC 9(5)V9(4) BINARY	The current character spacing, returned in the current unit of measure. See REAL on page 3 for a list of valid values.
AFP-WORD-SPACING	PIC S9(5)V9(4) BINARY	The current word spacing, returned in the current unit of measure. See SREAL on page 3 for a list of valid values.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPQPOS (Query Current Position)

```
CALL "AFPQPOS" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-X-COORDINATE
                     AFP-Y-COORDINATE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBPAG or AFPCARE)

Output Parameters	Picture Clause	Description
AFP-X-COORDINATE	PIC 9(5)V9(4) BINARY	The current X coordinate, returned in the current unit of measure. See REAL on page 3 for a list of valid values.
AFP-Y-COORDINATE	PIC 9(5)V9(4) BINARY	The current Y coordinate, returned in the current unit of measure. See REAL on page 3 for a list of valid values.
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPQSTR (Query Character String Size)

```
CALL "AFPQSTR" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-CHARACTER-STRING
                     AFP-STRING-LENGTH
                     AFP-MEASURED-WIDTH
                     AFP-LINE-SPACING
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBPAG, AFPCARE, AFPBPAR, or AFPBTBL)
AFP-CHARACTER-STRING	PIC X(*max string length*) CHARACTER	A character string of length AFP-STRING-LENGTH. This parameter is defined in APQVARS as PIC X(160).
AFP-STRING-LENGTH	PIC 9(8) BINARY	The length of the character string: 1 – limit supported by your compiler

Output Parameters	Picture Clause	Description
AFP-MEASURED-WIDTH	PIC 9(5)V9(4) BINARY	The width of the string in the current font, returned in the current unit of measure. See REAL on page 3 for a list of valid values.
AFP-LINE-SPACING	PIC 9(5)V9(4) BINARY	The depth of the string in the current font, returned in the current unit of measure. See REAL on page 3 for a list of valid values.
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPSCLR (Set Color)

```
CALL "AFPSCLR" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-COLOR
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBDOC, AFPBPAG, AFPCARE, AFPBPAR, or AFPBTBL)
AFP-COLOR	PIC 9(8) BINARY	The color to be printed: **BLACK** Black **BLUE** Blue **RED** Red **MAGENTA** Magenta **GREEN** Green **CYAN** Cyan **YELLOW** Yellow **BROWN** Brown **MEDIA** Color of medium

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPSFNT (Set Font)

```
CALL "AFPSFNT" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-FONT-ID
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBDOC, AFPBPAG, AFPCARE, AFPBPAR, or AFPBTBL)
AFP-FONT-ID	PIC X(9) CHARACTER	ID of the font (returned by AFPDFNT)

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPSICS (Set Intercharacter Spacing)

```
CALL "AFPSICS" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-CHARACTER-SPACING
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBDOC, AFPBPAG, AFPCARE, AFPBPAR, AFPBTBL)
AFP-CHARACTER-SPACING	PIC 9(5)V9(4) BINARY	The amount of space to be inserted between characters. See REAL on page 3 for a list of valid values.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPSLIB (Set Resource Library Names)

```
CALL "AFPSLIB" USING AFPAPI-HANDLE
                     AFP-PSEG-LIBRARY
                     AFP-OBJECT-LIBRARY
                     AFP-FONT-LIBRARY
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

This procedure call is ignored in VSE; however, you must specify the names of your resource libraries in the // LIBDEF PHASE,SEARCH=(...) VSE JCL statement.

This procedure call is also ignored in a CICS/ESA environment; fonts and page segments must be in VSAM data sets defined to CICS/ESA with filenames SEGLIB and FONTLIB.

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-PSEG-LIBRARY	PIC X(8) CHARACTER	An 8-byte character string padded on the right with blanks, if the actual page segment library name is fewer than 8 bytes long
AFP-OBJECT-LIBRARY	PIC X(8) CHARACTER	An 8-byte character string padded on the right with blanks, if the actual object library name is fewer than 8 bytes long
AFP-FONT-LIBRARY	PIC X(8) CHARACTER	An 8-byte character string padded on the right with blanks, if the actual font library name is fewer than 8 bytes long

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPSOUT (Set Output Characteristics)

```
CALL "AFPSOUT" USING AFPAPI-HANDLE
                     AFP-OUTPUT-RECORD-SIZE
                     AFP-OUTPUT-FILENAME
                     AFP-OUTPUT-FILETYPE
                     AFP-OUTPUT-FILEMODE
                     AFP-REPLACE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-OUTPUT-RECORD-SIZE	PIC 9(8) BINARY	If API is writing output records to an output file, valid values are 512 bytes to 8205 bytes; for MVS and VSE, the value cannot exceed the DCB length for the file. If API is writing output records to an output buffer, valid values are 512 bytes to 32 767 bytes.
AFP-OUTPUT-FILENAME	PIC X(8) CHARACTER	One of the following values: An 8-byte character string padded on the right with blanks if the actual output filename or CICS/ESA temporary storage queue name is fewer than 8 characters long. **BUFFERED** API is to write output to an output buffer instead of to an output file. **DISCBUFF** API is to discard the output instead of writing it to an output buffer or output file.
AFP-OUTPUT-FILETYPE	PIC X(8) CHARACTER	An 8-byte character string padded on the right with blanks if the actual output filetype is fewer than 8 characters long. This parameter is ignored on MVS and VSE. This parameter is ignored on VM if AFP-OUTPUT-FILENAME is set to BUFFERED or DISCBUFF.
AFP-OUTPUT-FILEMODE	PIC X(2) CHARACTER	A 2-byte character string padded on the right with blanks if the actual output filemode is fewer than 2 characters long. This parameter is ignored on MVS and VSE. This parameter is ignored on VM if AFP-OUTPUT-FILENAME is set to BUFFERED or DISCBUFF.
AFP-REPLACE	PIC 9(8) BINARY	**TRU** Replace the file if it already exists. **FALS** Do not replace an existing file. This parameter is ignored on MVS and VSE. This parameter is ignored on VM if AFP-OUTPUT-FILENAME is set to BUFFERED or DISCBUFF.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPSPOS (Set Position)

```
CALL "AFPSPOS" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-X-COORDINATE
                     AFP-X-REF-COORD-SYS
                     AFP-Y-COORDINATE
                     AFP-Y-REF-COORD-SYS
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBPAG or AFPCARE)
AFP-X-COORDINATE	PIC 9(5)V9(4) BINARY	The X coordinate of the position. See REAL on page 3 for a list of valid values.
AFP-X-REF-COORD-SYS	PIC 9(8) BINARY	**XABS** The X-COORDINATE value is an absolute offset from the X coordinate system origin. **XREL** The X-COORDINATE value is a relative offset from the current X position.
AFP-Y-COORDINATE	PIC 9(5)V9(4) BINARY	The Y coordinate of the position. See REAL on page 3 for a list of valid values.
AFP-Y-REF-COORD-SYS	PIC 9(8) BINARY	**YABS** The Y-COORDINATE value is an absolute offset from the Y coordinate system origin. **YREL** The Y-COORDINATE value is a relative offset from the current Y position. **YLINES** Number of lines from the current Y position.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPSRTH (Set Rule Thickness)

```
CALL "AFPSRTH" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-RULE-THICKNESS
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBDOC, AFPBPAG, or AFPCARE)
AFP-RULE-THICKNESS	PIC 9(5)V9(4) BINARY	The thickness of the rule. See REAL on page 3 for a list of valid values.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPSUNI (Set Units)

```
CALL "AFPSUNI" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-UNIT-OF-MEASURE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBDOC, AFPBPAG, or AFPCARE)
AFP-UNIT-OF-MEASURE	PIC 9(8) BINARY	The unit of measure: **INCH** Inches **MM** Millimeters **CM** Centimeters **U240** 240 units per inch **U1440** 1440 units per inch **Note:** The output file generated by AFP API is in logical units of 1440 per inch, even if you specify a different unit of measure in this parameter.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPSWSP (Set Word Spacing)

```
CALL "AFPSWSP" USING AFPAPI-HANDLE
                     AFP-CURRENT-HANDLE
                     AFP-WORD-SPACING
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT
AFP-CURRENT-HANDLE	PIC 9(8) BINARY	Current state handle (returned by AFPBDOC, AFPBPAG, AFPCARE, AFPBPAR, or AFPBTBL)
AFP-WORD-SPACING	PIC S9(5)V9(4) BINARY	The width of the space between words. **AFP-DEFAULT** Use the default wordspacing. See SREAL on page 3 for a list of valid values.

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPTERM (Terminate AFPAPI)

```
CALL "AFPTERM" USING AFPAPI-HANDLE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

AFPXARE (Destroy Area)

```
CALL "AFPXARE" USING AFPAPI-HANDLE
                     AFP-AREA-HANDLE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.
```

Input Parameters	Picture Clause	Description
AFPAPI-HANDLE	PIC 9(8) BINARY	Value returned from AFPINIT

Input/Output Parameters	Picture Clause	Description
AFP-AREA-HANDLE	PIC 9(8) BINARY	Handle of the area to be destroyed (returned from AFPCARE)

Output Parameters	Picture Clause	Description
AFP-RET-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the return codes.
AFP-SEVERITY-CODE	PIC 9(8) BINARY	Refer to *AFP Application Programming Interface: Programming Guide and Reference* for a list of the severity codes.

Chapter 3. COBOL Sample Code

This chapter contains three sample COBOL programs that create AFP output to produce the sample document shown in Figure 1 on page 66 and also shown in *AFP Application Programming Interface: Programming Guide and Reference*.

See Chapter 4, “COBOL Sample Code for CICS/ESA” on page 103 for the sample COBOL programs AFP API ships for a CICS/ESA environment.

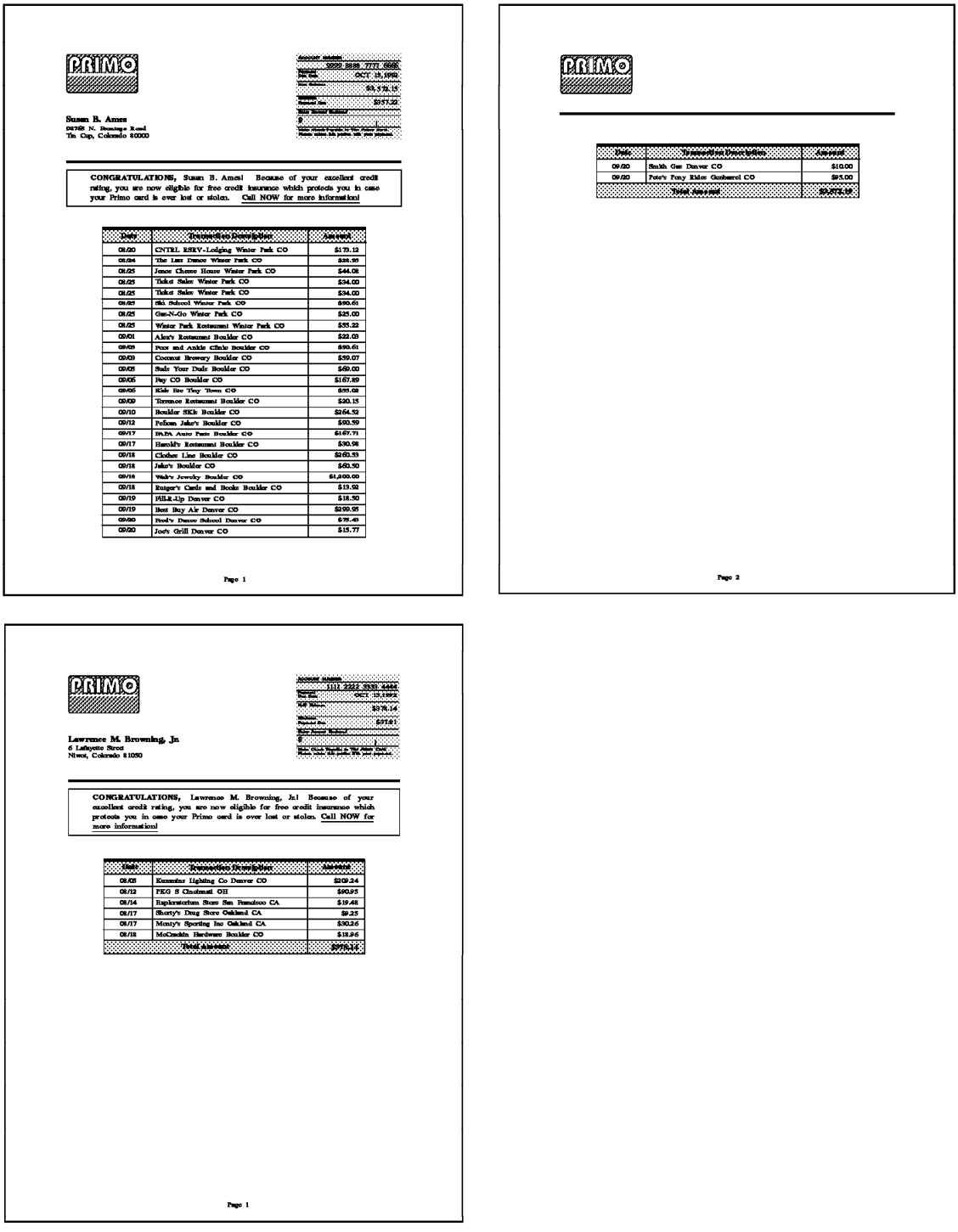
The three sample COBOL programs are:

- APQSAMP, which writes the AFP output to an output file, invoking COBOL paragraphs provided in APQPERF. APQSAMP is the installation verification program (IVP) shipped with AFP API.
- APQSAMP2, which writes the AFP output to an output file. APQSAMP2 is the same as APQSAMP, except that it uses direct calls to AFP API from the COBOL program.
- APQGETB, which uses the buffered-output function. AFP API returns the AFP output to the sample program, which then writes the AFP output to an output file. APQGETB invokes COBOL paragraphs provided in APQPERF.

  APQGETB is *not* shipped with AFP API, but is included here as an example of how to use the buffered-output function of AFP API.

The sample code is printed in 2-column format throughout this chapter.

Sample Document



PRIMO

Susan B. Ames
9870S N. Saratoga Road
Tin Cup, Colorado 80000

Account number: 3000 8888 7777 6666
Statement Date: OCT 15,1992
Prev Balance: $5,172.15
Payments Rec: $357.22
New Balance: $

CONGRATULATIONS, Susan B. Ames! Because of your excellent credit rating, you are now eligible for free credit insurance which protects you in case your Primo card is ever lost or stolen. Call NOW for more information!

Date	Transaction Description	Amount
08/20	CNTRL RSRV-Lodging Winter Park CO	$179.12
08/24	The Limo Dance Winter Park CO	$28.99
08/25	Jance Cheese House Winter Park CO	$44.08
08/25	Ticket Sales Winter Park CO	$34.00
08/25	Ticket Sales Winter Park CO	$34.00
08/25	Ski School Winter Park CO	$90.61
08/25	Gas-N-Go Winter Park CO	$25.00
08/25	Winter Park Restaurant Winter Park CO	$53.22
09/01	Alex's Restaurant Boulder CO	$22.03
09/03	Foot and Ankle Clinic Boulder CO	$90.61
09/03	Coconut Brewery Boulder CO	$39.07
09/05	Sale Your Dads Boulder CO	$69.00
09/05	Pay CO Boulder CO	$167.89
09/06	Kids Rec Play Town CO	$89.08
09/09	Terrance Restaurant Boulder CO	$20.15
09/10	Boulder Ski's Boulder CO	$264.52
09/12	Pelican Jake's Boulder CO	$90.59
09/17	Bob's Auto Parts Boulder CO	$167.71
09/17	Harold's Restaurant Boulder CO	$30.98
09/18	Clothes Line Boulder CO	$260.93
09/18	Jake's Boulder CO	$60.50
09/18	Walt's Jewelry Boulder CO	$1,200.00
09/18	Rutger's Cards and Books Boulder CO	$13.92
09/19	Fill-It-Up Denver CO	$18.50
09/19	Best Buy Air Denver CO	$250.95
09/20	Fred's Dance School Denver CO	$79.49
09/20	Joe's Grill Denver CO	$15.77

Page 1

PRIMO

Date	Transaction Description	Amount
09/20	Smith Gas Denver CO	$10.00
09/20	Pete's Pony Rides Gunbarrel CO	$95.00
	Total Amount	$5,972.19

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PRIMO

Lawrence M. Browning, Jr.
6 Lafayette Street
Niwot, Colorado 81050

Account number: 111 2222 333 4444
Statement Date: OCT 15,1992
Prev Balance: $378.14
Payments Rec: $378.14
New Balance: $

CONGRATULATIONS, Lawrence M. Browning, Jr.! Because of your excellent credit rating, you are now eligible for free credit insurance which protects you in case your Primo card is ever lost or stolen. Call NOW for more information!

Date	Transaction Description	Amount
08/05	Kenmins Lighting Co Denver CO	$209.24
08/12	FEG S Cincinnati OH	$90.95
08/14	Exploratorium Store San Francisco CA	$19.48
08/17	Sherry's Drug Store Oakland CA	$9.25
08/17	Monty's Sporting Inc Oakland CA	$30.26
08/18	McCredits Hardware Boulder CO	$18.96
	Total Amount	$378.14

Page 1

Figure 1. Sample Document

APQSAMP

```
 IDENTIFICATION DIVISION.
*****************************************************************
*   COBOL PROGRAM -- AFPAPI APQSAMP                             *
*                                                               *
* This program invokes the AFP API to produce a sample          *
* customer billing statement.  See the "AFP API Programming     *
* Guide and Reference" for a picture of the print output        *
* produced by this program.                                     *
*****************************************************************
 PROGRAM-ID. APQSAMP.
 ENVIRONMENT DIVISION.

   CONFIGURATION SECTION.
    SOURCE-COMPUTER. IBM.
    OBJECT-COMPUTER. IBM.

   INPUT-OUTPUT SECTION.
    FILE-CONTROL.
       SELECT INPUT-DATA
           ASSIGN TO DATAFILE
           ORGANIZATION IS SEQUENTIAL
           FILE STATUS IS FILE-STATUS.

*****************************************************************
*                                                               *
*                    DATA DIVISION                              *
*                                                               *
*****************************************************************
 DATA DIVISION.
   FILE SECTION.
    FD INPUT-DATA
     BLOCK CONTAINS 0 RECORDS
     RECORD CONTAINS 80 CHARACTERS
     LABEL RECORDS OMITTED
     RECORDING MODE F.
    01  INPUT-RECORD.
     03  POST-DATE-IN               PIC 9(4).
     03  TRANSACTION-DESCRIPTION    PIC X(40).
     03  TRANSACTION-AMOUNT-IN      PIC S9(7)V9(2).

   WORKING-STORAGE SECTION.

    01  FILE-STATUS                    PIC 99.
    01  CUST-IN.
     03  CUST-NAME                  PIC X(25) VALUE SPACES.
     03  CUST-ST-ADDR               PIC X(30) VALUE SPACES.
     03  CUST-CITY-STATE            PIC X(35) VALUE SPACES.
     03  ACCOUNT-NUM-IN             PIC 9(16) VALUE ZERO.
     03  CUSTOMER-BALANCE-IN        PIC S9(7)V9(2) BINARY.

    01  TRANSACTION-PROCESSING-VARS.
     03  PAGE-HEADER-DEPTH          PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  PAGE-BODY                  PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  BOTTOM-MARGIN              PIC 9(5)V9(4) BINARY
                                    VALUE 20.0.
     03  TABLE-WHITE-SPACE          PIC 9(5)V9(4) BINARY
                                    VALUE 10.0.
     03  PARAGRAPH-WHITE-SPACE      PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  TABLE-DEPTH                PIC 9(5)V9(4) VALUE 0.0.
     03  END-TABLE-POSITION         PIC 9(5)V9(4) VALUE ZERO.
     03  NUM-CUSTOMER-PAGES         PIC 99 BINARY VALUE 1.

    01  CUST-OUT.
     03  ACCOUNT-NUM-OUT            PIC 9999B9999B9999B9999.
     03  OLD-BALANCE-OUT            PIC $$,$$$,$$9.99.
     03  MIN-AMOUNT-DUE-OUT         PIC $$$$,$$9.99.
     03  POST-DATE-OUT              PIC 99/99.
     03  TRANSACTION-DATE-OUT       PIC 99/99.
     03  TRANSACTION-AMOUNT-OUT     PIC $$,$$$,$$9.99CR.
     03  CUSTOMER-BALANCE-OUT       PIC $$,$$$,$$9.99CR.
     03  NUM-CUSTOMER-PAGES-OUT     PIC Z9.

    01  DUE-DATE.
     03  DUE-MONTH                  PIC X(3) VALUE "OCT".
     03  FILLER                     PIC X VALUE SPACE.
     03  DUE-DAY                    PIC X(3) VALUE "15,".
     03  DUE-YEAR                   PIC X(4) VALUE "1992".

    01  PROCESSING-SWITCHES.
     03  DATA-REMAINS-SWITCH        PIC X(3) VALUE "YES".
     03  NEW-CUSTOMER               PIC X(3) VALUE "NO ".
     03  MIN-AMOUNT-DUE-COMP        PIC 9(7)V99.

    01  EXCLAMATION                 PIC X VALUE X"4f".

    01  FONT-IDS.
         05  TIM10MED               PIC X(9).
         05  TIM12MED               PIC X(9).
         05  TIM12MEDITAL           PIC X(9).
         05  TIM12BOLD              PIC X(9).
    01  FIELD-IDS.
         05  FIELDH1                PIC 9(8) BINARY.
         05  FIELDH2                PIC 9(8) BINARY.
         05  FIELDH3                PIC 9(8) BINARY.
         05  FIELDT1                PIC 9(8) BINARY.
         05  FIELDT2                PIC 9(8) BINARY.
         05  FIELDT3                PIC 9(8) BINARY.
         05  FIELDS1                PIC 9(8) BINARY.
         05  FIELDS2                PIC 9(8) BINARY.
 01  ROW-IDS.
         05  ROW1                   PIC X(9).
         05  ROW2                   PIC X(9).
         05  ROW3                   PIC X(9).

     COPY APQCONST.
     COPY APQRCS.
     COPY APQVARS.

/---------------------------------------------------------------*
*****************************************************************
*                                                               *
*   MAINLINE                                                    *
*                                                               *
*            This program produces a sample customer statement.*
*            The statement contains a logo stored in a page     *
*            segment, a paragraph enclosed in a box with        *
*            variable data, account summary information         *
*            which is highlighted in a shaded area, and         *
*            the account transactions contained in a variable   *
*            depth table.                                       *
*                                                               *
*            The mainline logic is as follows:                  *
*                                                               *
*            Initialize the API and define the fonts, fields,   *
*                 and rows.                                     *
*            Load the sample data for the first customer        *
*            Process a customer until no more customers to      *
*                 process.                                      *
*            End the API.                                       *
*****************************************************************
 PROCEDURE DIVISION.


 MAINLINE.

     OPEN INPUT INPUT-DATA.
     IF FILE-STATUS NOT = ZEROS
             DISPLAY "UNABLE TO OPEN INPUT FILE"
             DISPLAY "FILE STATUS" FILE-STATUS
             STOP RUN.

     PERFORM SETUP-AFPAPI.
     PERFORM READ-DATA.
     PERFORM PROCESS-A-CUSTOMER UNTIL DATA-REMAINS-SWITCH
                 = "NO ".
     PERFORM END-PROCESSING.

     CLOSE INPUT-DATA.
     DISPLAY "APQSAMP COMPLETED".
     STOP RUN.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SETUP-AFPAPI.                                            *
*        Initialize the AFP API.                              *
*        Set the output characteristics.                      *
*        Begin a document.                                    *
*        Define the fonts.                                    *
*        Define the fields and rows of a table.               *
*                                                             *
*-------------------------------------------------------------*


 SETUP-AFPAPI.
         MOVE FALS TO AFP-TRACE.
     PERFORM 200-AFPINIT.

*-------------------------------------------------------------*
*                                                             *
*    Set the output characteristics.                         *
*                                                             *
*-------------------------------------------------------------*
         MOVE 8205 TO AFP-OUTPUT-RECORD-SIZE.
         MOVE "APQSAMP" TO AFP-OUTPUT-FILENAME.
         MOVE "LISTAFP" TO AFP-OUTPUT-FILETYPE.
         MOVE "A1" TO AFP-OUTPUT-FILEMODE.
         MOVE TRU TO AFP-REPLACE.
     PERFORM 395-AFPSOUTC.

         MOVE MM TO AFP-UNIT-OF-MEASURE.
         MOVE 215 TO AFP-DOC-PAGE-WIDTH.
         MOVE 280 TO AFP-DOC-PAGE-DEPTH.
         MOVE ORIENTO TO AFP-PAGE-ORIENTATION.
     PERFORM 210-AFPBDOC.
     MOVE AFP-DOCUMENT-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
*                                                             *
*    Define the fonts.                                       *
*                                                             *
*-------------------------------------------------------------*
         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 10 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM10MED.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12MED.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ITALIC TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12MEDITAL.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE BOLD TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12BOLD.

/-------------------------------------------------------------*
*   THIS IS THE START OF THE FIELD AND ROW DEFINITIONS         *
*-------------------------------------------------------------*

         MOVE FOCENTER TO AFP-FORMAT-OPTION.
         MOVE 0 TO AFP-ALIGNMENT-POSITION.
         MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
         MOVE 0.0 TO AFP-LEFT-MARGIN.
         MOVE 0.0 TO AFP-RIGHT-MARGIN.
         MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
         MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
         MOVE SCREEN TO AFP-SHADING-PATTERN.
         MOVE 18 TO AFP-SHADING-INTENSITY.
         MOVE .5 TO AFP-TOP-THICKNESS.
         MOVE .5 TO AFP-BOTTOM-THICKNESS.
         MOVE .5 TO AFP-LEFT-THICKNESS.
         MOVE .5 TO AFP-RIGHT-THICKNESS.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDH1.

     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDH2.

     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDH3.

         MOVE 3 TO AFP-NUMBER-COLUMNS.
         MOVE 1 TO AFP-NUMBER-SUBROWS.
         MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
         MOVE FIELDH1 TO AFP-COLUMN-ARRANGE (1, 1).
         MOVE 25.0 TO AFP-COLUMN-WIDTH (1).
         MOVE FIELDH2 TO AFP-COLUMN-ARRANGE (1, 2).
         MOVE 70.0 TO AFP-COLUMN-WIDTH (2).
         MOVE FIELDH3 TO AFP-COLUMN-ARRANGE (1, 3).
         MOVE 30.0 TO AFP-COLUMN-WIDTH (3).
     PERFORM 361-AFPDROW.
       MOVE AFP-ROW-ID TO ROW1.

/-------------------------------------------------------------*
*  Define the transaction row
*-------------------------------------------------------------*
         MOVE FOCENTER TO AFP-FORMAT-OPTION.
         MOVE 0 TO AFP-ALIGNMENT-POSITION.
         MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
         MOVE 1.0 TO AFP-LEFT-MARGIN.
         MOVE 1.0 TO AFP-RIGHT-MARGIN.
         MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
         MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
         MOVE NOSHADE TO AFP-SHADING-PATTERN.
         MOVE 0 TO AFP-SHADING-INTENSITY.
         MOVE 0.5 TO AFP-TOP-THICKNESS.
         MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
         MOVE 0.5 TO AFP-LEFT-THICKNESS.
         MOVE 0.5 TO AFP-RIGHT-THICKNESS.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDT1.

     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDT2.

         MOVE 0.0 TO AFP-LEFT-MARGIN.
         MOVE 20 TO AFP-ALIGNMENT-POSITION.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDT3.

         MOVE 0.5 TO AFP-TOP-THICKNESS.
         MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
         MOVE 1 TO AFP-NUMBER-SUBROWS.
         MOVE 3 TO AFP-NUMBER-COLUMNS.
```

```
        MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
        MOVE FIELDT1 TO AFP-COLUMN-ARRANGE (1, 1).
        MOVE 25.0 TO AFP-COLUMN-WIDTH (1).
        MOVE FIELDT2 TO AFP-COLUMN-ARRANGE (1, 2).
        MOVE 70.0 TO AFP-COLUMN-WIDTH (2).
        MOVE FIELDT3 TO AFP-COLUMN-ARRANGE (1, 3).
        MOVE 30.0 TO AFP-COLUMN-WIDTH (3).
    PERFORM 361-AFPDROW.
      MOVE AFP-ROW-ID TO ROW2.

/---------------------------------------------------------------*
*  Define the summary row
*---------------------------------------------------------------*
        MOVE FOCENTER TO AFP-FORMAT-OPTION.
        MOVE 0 TO AFP-ALIGNMENT-POSITION.
        MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
        MOVE 1.0 TO AFP-LEFT-MARGIN.
        MOVE 1.0 TO AFP-RIGHT-MARGIN.
        MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
        MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
        MOVE SCREEN TO AFP-SHADING-PATTERN.
        MOVE 18 TO AFP-SHADING-INTENSITY.
        MOVE 0.5 TO AFP-TOP-THICKNESS.
        MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
        MOVE 0.5 TO AFP-LEFT-THICKNESS.
        MOVE 0.5 TO AFP-RIGHT-THICKNESS.
    PERFORM 360-AFPDFLD.
      MOVE AFP-FIELD-ID TO FIELDS1.

        MOVE 0.0 TO AFP-LEFT-MARGIN.
        MOVE 20 TO AFP-ALIGNMENT-POSITION.
    PERFORM 360-AFPDFLD.
      MOVE AFP-FIELD-ID TO FIELDS2.

        MOVE 0.0 TO AFP-TOP-THICKNESS.
        MOVE 0.0 TO AFP-BOTTOM-THICKNESS.
        MOVE 1 TO AFP-NUMBER-SUBROWS.
        MOVE 2 TO AFP-NUMBER-COLUMNS.
        MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
        MOVE FIELDS1 TO AFP-COLUMN-ARRANGE (1, 1).
        MOVE 95.0 TO AFP-COLUMN-WIDTH (1).
        MOVE FIELDS2 TO AFP-COLUMN-ARRANGE (1, 2).
        MOVE 30.0 TO AFP-COLUMN-WIDTH (2).
    PERFORM 361-AFPDROW.
      MOVE AFP-ROW-ID TO ROW3.

/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*      READ SAMPLE DATA                                         *
*                                                               *
*---------------------------------------------------------------*
 READ-DATA.
     READ INPUT-DATA AT END
          MOVE "NO" TO DATA-REMAINS-SWITCH
     END-READ.
     IF FILE-STATUS NOT = ZEROS AND FILE-STATUS NOT = 10
             DISPLAY "READ ERROR"
             DISPLAY "FILE STATUS" FILE-STATUS
             STOP RUN.
*---------------------------------------------------------------*
* If this is a new customer, read the customer address and      *
* account balance.                                              *
*---------------------------------------------------------------*
     IF POST-DATE-IN EQUAL ZEROS
       MOVE "YES" TO NEW-CUSTOMER
       STRING TRANSACTION-DESCRIPTION DELIMITED BY " "
          INTO ACCOUNT-NUM-IN ON OVERFLOW CONTINUE
       END-STRING

*---------------------------------------------------------------*
* Read the customer name                                        *
*---------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-DESCRIPTION TO CUST-NAME

*---------------------------------------------------------------*
* Read the customer street address.                             *
*---------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-DESCRIPTION TO CUST-ST-ADDR

*---------------------------------------------------------------*
* Read the customer city and state.                             *
*---------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-DESCRIPTION TO CUST-CITY-STATE

*---------------------------------------------------------------*
* Read the customer balance.                                    *
*---------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-AMOUNT-IN TO CUSTOMER-BALANCE-IN
*---------------------------------------------------------------*
* Read the first customer transaction                           *
*---------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       IF FILE-STATUS NOT = ZEROS
             DISPLAY "READ ERROR"
             DISPLAY "FILE STATUS" FILE-STATUS
             STOP RUN
       ELSE CONTINUE
       END-IF
     ELSE CONTINUE
     END-IF.
/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    PROCESS THE CUSTOMER.                                      *
*                                                               *
*            Begin a page                                       *
*            Write the page header                              *
*            Write the paragraph                                *
*            Process the customer transactions                  *
*            Write the page footer                              *
*            End the page                                       *
*---------------------------------------------------------------*

 PROCESS-A-CUSTOMER.
     MOVE CUSTOMER-BALANCE-IN TO CUSTOMER-BALANCE-OUT.
*---------------------------------------------------------------*
* Initialize the number of transactions for this customer to 0  *
*---------------------------------------------------------------*
     MOVE 1 TO NUM-CUSTOMER-PAGES.

       MOVE AFP-DEFAULT TO AFP-PAGE-WIDTH.
       MOVE AFP-DEFAULT TO AFP-PAGE-DEPTH.
     PERFORM 220-AFPBPAGE.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

     PERFORM CREATE-THE-HEADER.
*---------------------------------------------------------------*
* Calculate the page body size as the page size less the page   *
* header and bottom margin.                                     *
*---------------------------------------------------------------*
     COMPUTE PAGE-BODY = AFP-DOC-PAGE-DEPTH - PAGE-HEADER-DEPTH -
          BOTTOM-MARGIN.

     PERFORM PROCESS-THE-PARAGRAPH.
*---------------------------------------------------------------*
* Calculate the remaining page body after the paragraph.        *
*---------------------------------------------------------------*
     COMPUTE PAGE-BODY = PAGE-BODY - AFP-PARAGRAPH-DEPTH.

     PERFORM PROCESS-TRANSACTIONS.

     PERFORM CREATE-THE-FOOTER.

     PERFORM 480-AFPEPAGE.

/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    CREATE THE HEADER.                                         *
*                                                               *
*---------------------------------------------------------------*

 CREATE-THE-HEADER.
     PERFORM PROCESS-THE-AREA.
```

```
*-------------------------------------------------------------*
* Include the Page Segment                                    *
*-------------------------------------------------------------*
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE "APQPSEG" TO AFP-PSEG-NAME.
       MOVE TRU TO AFP-INLINE-OPTION.
       MOVE FALS TO AFP-REUSE-OPTION.
     PERFORM 440-AFPIPSEG.

     PERFORM PROCESS-THE-ADDRESS.

*-------------------------------------------------------------*
* Draw a rule underneath the address                          *
*-------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 73 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE XDIRECTION TO AFP-DIRECTION.
       MOVE 158 TO AFP-RULE-LENGTH.
     PERFORM 310-AFPPRULE.

*-------------------------------------------------------------*
* Leave space after the rule                                  *
*-------------------------------------------------------------*
       MOVE 4 TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

*-------------------------------------------------------------*
* Query the position and calculate the page header depth.     *
*-------------------------------------------------------------*
     PERFORM 275-AFPQPOS.
     MOVE AFP-Y-COORDINATE TO PAGE-HEADER-DEPTH.
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE AREA                                         *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-AREA.
       MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
       MOVE 50.0 TO AFP-AREA-WIDTH.
       MOVE 65.0 TO AFP-MAX-AREA-DEPTH.
       MOVE NOSHADE TO AFP-SHADING-PATTERN.
       MOVE 0 TO AFP-SHADING-INTENSITY.
     PERFORM 230-AFPCAREA.
       MOVE AFP-AREA-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
* Include the Page Overlay                                    *
*-------------------------------------------------------------*
       MOVE "O1APQL2" TO AFP-OVLY-NAME.
     PERFORM 236-AFPIPOVL.

*-------------------------------------------------------------*
* Write the account number                                    *
*-------------------------------------------------------------*
       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 7 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE ACCOUNT-NUM-IN TO ACCOUNT-NUM-OUT.
       MOVE 19 TO AFP-STRING-LENGTH.
       MOVE ACCOUNT-NUM-OUT TO AFP-CHARACTER-STRING.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the due date.                                         *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 12 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE DUE-DATE TO AFP-CHARACTER-STRING.
       MOVE 11 TO AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer balance.                                 *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 19 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       CALL "TRIM" USING CUSTOMER-BALANCE-OUT,
                    BY CONTENT LENGTH OF CUSTOMER-BALANCE-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer payment.                                 *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 24 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

         MULTIPLY .1 BY CUSTOMER-BALANCE-IN GIVING
           MIN-AMOUNT-DUE-COMP ROUNDED.
         MOVE MIN-AMOUNT-DUE-COMP TO MIN-AMOUNT-DUE-OUT.
       CALL "TRIM" USING MIN-AMOUNT-DUE-OUT,
                    BY CONTENT LENGTH OF MIN-AMOUNT-DUE-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

     PERFORM 470-AFPEAREA.

*-------------------------------------------------------------*
* Place the area on the page.                                 *
*-------------------------------------------------------------*
       MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
       MOVE 137 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE ORIENT0 TO AFP-AREA-ROTATION.
     PERFORM 235-AFPPAREA.

*-------------------------------------------------------------*
* Destroy the area from AFP API storage.                      *
*-------------------------------------------------------------*
     PERFORM 237-AFPXAREA.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE ADDRESS.                                     *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-ADDRESS.
*-------------------------------------------------------------*
* Write the customer name.                                    *
*-------------------------------------------------------------*
       MOVE TIM12BOLD TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 56 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-NAME,
                    BY CONTENT LENGTH OF CUST-NAME,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer address.                                 *
*-------------------------------------------------------------*
       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 1 TO AFP-Y-COORDINATE.
       MOVE YLINES TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-ST-ADDR,
                    BY CONTENT LENGTH OF CUST-ST-ADDR,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

       MOVE 1 TO AFP-Y-COORDINATE.
       MOVE YLINES TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-CITY-STATE,
                    BY CONTENT LENGTH OF CUST-CITY-STATE,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE PARAGRAPH.                                   *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-PARAGRAPH.
       MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE PARAGRAPH-WHITE-SPACE TO AFP-Y-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE 0.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 0 TO AFP-FIRST-LINE-INDENT.
       MOVE FOJUSTIFY TO AFP-FORMAT-OPTION.
       MOVE AFP-DEFAULT TO AFP-FIRST-LINE-OFFSET.
       MOVE 10.0 TO AFP-LEFT-MARGIN.
       MOVE 135.0 TO AFP-LINE-LENGTH.
       MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
       MOVE TRU TO AFP-PARAGRAPH-FRAME.
       MOVE 158.0 TO AFP-RT-RULE-OFFSET.
       MOVE 0.0 TO AFP-BOT-RULE-OFFSET.
       MOVE NOSHADE TO AFP-SHADING-PATTERN.
       MOVE 0 TO AFP-SHADING-INTENSITY.
     PERFORM 240-AFPBPARA.
       MOVE AFP-PARAGRAPH-HANDLE TO AFP-CURRENT-HANDLE.

       MOVE TIM12BOLD TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING "CONGRATULATIONS, " DELIMITED BY SIZE
         INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
       MOVE TRU TO AFP-CONCATENATE.
     PERFORM 320-AFPPTEXT.

       MOVE TIM12MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

     CALL "TRIM" USING CUST-NAME,
                    BY CONTENT LENGTH OF CUST-NAME,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING EXCLAMATION  DELIMITED BY SIZE
              "  Because of your excellent credit rating, you are
-    "now eligible for free credit insurance which"
          DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING " protects you in case your Primo card is ever lost
-      "or stolen.  "
        DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING "  Call NOW for more information" DELIMITED BY SIZE
             EXCLAMATION DELIMITED BY SIZE
         INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE TRU TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

     PERFORM 460-AFPEPARA.

*-------------------------------------------------------------*
* Calculate the amount of space taken up by the paragraph.    *
*-------------------------------------------------------------*
     COMPUTE AFP-PARAGRAPH-DEPTH = AFP-PARAGRAPH-DEPTH +
                                   PARAGRAPH-WHITE-SPACE.

     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS TRANSACTIONS.                                    *
*                                                             *
*            Begin a table                                    *
*            Write the header rows                            *
*            Write a transaction row until no more data for   *
*                  this customer or no more data.             *
*            Write the summary row                            *
*            End the table                                    *
*            Compute the table depth.                         *
*-------------------------------------------------------------*

 PROCESS-TRANSACTIONS.

       MOVE "NO " TO NEW-CUSTOMER.

*-------------------------------------------------------------*
* Start the table whose maximum depth is the remaining page   *
* body space after the white space preceeding the table.      *
*-------------------------------------------------------------*
       MOVE 45 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE TABLE-WHITE-SPACE TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       COMPUTE AFP-MAX-TABLE-DEPTH = PAGE-BODY -
                                     TABLE-WHITE-SPACE.
       MOVE 125.0 TO AFP-TABLE-WIDTH.
       MOVE ORIENTO TO AFP-TABLE-ROTATION.
       MOVE 1.0 TO AFP-TOP-THICKNESS.
       MOVE .5 TO AFP-BOTTOM-THICKNESS.
       MOVE .5 TO AFP-LEFT-THICKNESS.
       MOVE .5 TO AFP-RIGHT-THICKNESS.
     PERFORM 362-AFPBTABL.
     MOVE AFP-TABLE-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
* Write the table header rows.                                *
*-------------------------------------------------------------*
     PERFORM WRITE-HEADER-ROWS.

*-------------------------------------------------------------*
* Write the transaction rows for this customer.               *
*-------------------------------------------------------------*
     PERFORM WRITE-TRANSACTIONS UNTIL
       NEW-CUSTOMER = "YES" OR DATA-REMAINS-SWITCH = "NO".

*-------------------------------------------------------------*
* Write the table summary rows.                               *
*-------------------------------------------------------------*
     PERFORM WRITE-SUMMARY-ROW.

*-------------------------------------------------------------*
* If the end of the table was reached, end this page, start   *
* a new page, and write the summary row that didn't fit.      *
*-------------------------------------------------------------*
     IF AFP-SEVERITY-CODE = WARNING
               PERFORM END-CUST-PAGE
               PERFORM WRITE-SUMMARY-ROW.

*-------------------------------------------------------------*
* End the table.                                              *
*-------------------------------------------------------------*
     PERFORM 369-AFPETABL.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
* Calculate the amount of space taken up by the table.        *
*-------------------------------------------------------------*
     COMPUTE AFP-TABLE-DEPTH = AFP-TABLE-DEPTH +
                               TABLE-WHITE-SPACE.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-HEADER-ROWS.                                       *
*                                                             *
*            Write the header row for the table.              *
*-------------------------------------------------------------*
 WRITE-HEADER-ROWS.
       MOVE ROW1 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.

*-------------------------------------------------------------*
* Write the first field in column 1.                          *
*-------------------------------------------------------------*
       MOVE FIELDH1 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.
       MOVE TIM12MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.


       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Date" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                       BY CONTENT LENGTH OF AFP-STRING-IN,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the second field in column 2.                         *
*-------------------------------------------------------------*
       MOVE FIELDH2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Transaction Description" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                       BY CONTENT LENGTH OF AFP-STRING-IN,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.


     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the third field in column 3.                          *
*-------------------------------------------------------------*
       MOVE FIELDH3 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Amount" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                       BY CONTENT LENGTH OF AFP-STRING-IN,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-TRANSACTIONS.                                      *
*                                                             *
*            Write a transaction row.                         *
*            Read another input data record.                  *
*-------------------------------------------------------------*

 WRITE-TRANSACTIONS.
     PERFORM WRITE-TRANSACTION-ROW.
```

```
*-------------------------------------------------------------*
*           If the end of the table was reached,              *
*           end this page, start a new page, and              *
*           write the transaction row that didn't fit.        *
*-------------------------------------------------------------*
     IF AFP-SEVERITY-CODE = WARNING
               PERFORM END-CUST-PAGE
               PERFORM WRITE-TRANSACTION-ROW.

     PERFORM READ-DATA.

/------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-TRANSACTION-ROW.                                   *
*                                                             *
*           Begin a row.                                      *
*           Write the post date to the first field in the table*
*           Write the transaction description to the second   *
*                field.                                       *
*           Write the transaction amount to the third field.  *
*           End the row.                                      *
*-------------------------------------------------------------*
 WRITE-TRANSACTION-ROW.

       MOVE ROW2 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.

*-------------------------------------------------------------*
* Write the transaction date in column 1.                     *
*-------------------------------------------------------------*
       MOVE FIELDT1 TO AFP-FIELD-ID
     PERFORM 364-AFPBFLD

       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE POST-DATE-IN TO POST-DATE-OUT.
     CALL "TRIM" USING POST-DATE-OUT,
                    BY CONTENT LENGTH OF POST-DATE-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the transaction description in column 2.              *
*-------------------------------------------------------------*
       MOVE FIELDT2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING TRANSACTION-DESCRIPTION DELIMITED BY SIZE
           INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the transaction amount in column 3.                   *
*-------------------------------------------------------------*
       MOVE FIELDT3 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE TRANSACTION-AMOUNT-IN TO TRANSACTION-AMOUNT-OUT.
     CALL "TRIM" USING TRANSACTION-AMOUNT-OUT,
                    BY CONTENT LENGTH OF TRANSACTION-AMOUNT-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CHAR TO AFP-ALIGNMENT-OPTION.
       MOVE "." TO AFP-ALIGNMENT-CHAR.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.

/------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-SUMMARY-ROW.                                       *
*                                                             *
*           Write the customer summary row.                   *
*-------------------------------------------------------------*
 WRITE-SUMMARY-ROW.

       MOVE ROW3 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.

       MOVE FIELDS1 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE TIM12MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE "Total Amount" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

       MOVE FIELDS2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

     CALL "TRIM" USING CUSTOMER-BALANCE-OUT,
                    BY CONTENT LENGTH OF CUSTOMER-BALANCE-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CHAR TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.

/------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    CREATE-THE-FOOTER.                                       *
*                                                             *
*           Write the page footer.                            *
*-------------------------------------------------------------*
 CREATE-THE-FOOTER.
       MOVE 108 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 270 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING "Page " DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

     MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.

       MOVE NUM-CUSTOMER-PAGES TO NUM-CUSTOMER-PAGES-OUT.
     CALL "TRIM" USING NUM-CUSTOMER-PAGES-OUT,
                       BY CONTENT LENGTH OF
                          NUM-CUSTOMER-PAGES-OUT,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

     MOVE L-FT TO AFP-ALIGNMENT-OPTION.
```

```
     MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    END-CUST-PAGE.                                           *
*                                                             *
*            End the table.                                   *
*            Write the page footer.                           *
*            End the page.                                    *
*            Start a new page.                                *
*            Begin a table                                    *
*            Write the header rows                            *
*-------------------------------------------------------------*
 END-CUST-PAGE.
     PERFORM 369-AFPETABL.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
*************************************************************
*            Write the footer.                              *
*************************************************************
     PERFORM CREATE-THE-FOOTER.

     PERFORM 480-AFPEPAGE.

*************************************************************
*            Start a new page.                              *
*************************************************************
     ADD 1 TO NUM-CUSTOMER-PAGES.
       MOVE AFP-DEFAULT TO AFP-PAGE-WIDTH.
       MOVE AFP-DEFAULT TO AFP-PAGE-DEPTH.
     PERFORM 220-AFPBPAGE.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

     PERFORM CREATE-THE-CONT-HEADER.
*-------------------------------------------------------------*
* Calculate the page body space as the page size less the     *
* continuation page header size and bottom margin.            *
*-------------------------------------------------------------*
     COMPUTE PAGE-BODY = AFP-DOC-PAGE-DEPTH - PAGE-HEADER-DEPTH -
          BOTTOM-MARGIN.

*-------------------------------------------------------------*
*            Begin a table                                    *
*-------------------------------------------------------------*
       MOVE 45 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE TABLE-WHITE-SPACE TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       COMPUTE AFP-MAX-TABLE-DEPTH = PAGE-BODY -
                                     TABLE-WHITE-SPACE.
       MOVE 125.0 TO AFP-TABLE-WIDTH.
       MOVE ORIENTO TO AFP-TABLE-ROTATION.
       MOVE 1.0 TO AFP-TOP-THICKNESS.
       MOVE .5 TO AFP-BOTTOM-THICKNESS.
       MOVE .5 TO AFP-LEFT-THICKNESS.
       MOVE .5 TO AFP-RIGHT-THICKNESS.
     PERFORM 362-AFPBTABL.
     MOVE AFP-TABLE-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
*            Write the header rows                            *
*-------------------------------------------------------------*
     PERFORM WRITE-HEADER-ROWS.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    CREATE THE HEADER FOR THE CONTINUATION PAGES             *
*                                                             *
*-------------------------------------------------------------*

 CREATE-THE-CONT-HEADER.
*-------------------------------------------------------------*
* Include the page segment                                    *
*-------------------------------------------------------------*
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE "APQPSEG" TO AFP-PSEG-NAME.
       MOVE TRU TO AFP-INLINE-OPTION.
       MOVE FALS TO AFP-REUSE-OPTION.
     PERFORM 440-AFPIPSEG.

*-------------------------------------------------------------*
* Draw a rule underneath the page segment                     *
*-------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 50 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE XDIRECTION TO AFP-DIRECTION.
       MOVE 158 TO AFP-RULE-LENGTH.
     PERFORM 310-AFPPRULE.

*-------------------------------------------------------------*
* Leave space after the rule                                  *
*-------------------------------------------------------------*
       MOVE 4 TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

*-------------------------------------------------------------*
* Query the position and calculate the page header depth.     *
*-------------------------------------------------------------*
     PERFORM 275-AFPQPOS.
     MOVE AFP-Y-COORDINATE TO PAGE-HEADER-DEPTH.
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    TERMINATE THE AFPAPI AND THE PROGRAM                    *
*                                                             *
*-------------------------------------------------------------*

 END-PROCESSING.
     PERFORM 490-AFPEDOC.
     PERFORM 500-AFPEND.

     COPY APQPERF.
     COPY APQSTRL.
     COPY APQTRIM.

 END PROGRAM APQSAMP.
```

APQSAMP2

```
 IDENTIFICATION DIVISION.
*****************************************************************
*   COBOL PROGRAM -- AFPAPI APQSAMP2                            *
*                                                               *
* This program invokes the AFP API to produce a sample          *
* customer billing statement.  See the "AFP API Programming     *
* Guide and Reference" for a picture of the print output        *
* produced by this program.                                     *
* Note: This program invokes the API directly instead of        *
*       performing the paragraphs provided in the APQPERF       *
*       copy file.                                              *
*****************************************************************
 PROGRAM-ID. APQSAMP2.
 ENVIRONMENT DIVISION.

   CONFIGURATION SECTION.
    SOURCE-COMPUTER. IBM.
    OBJECT-COMPUTER. IBM.

   INPUT-OUTPUT SECTION.
    FILE-CONTROL.
       SELECT INPUT-DATA
           ASSIGN TO DATAFILE
           ORGANIZATION IS SEQUENTIAL
           FILE STATUS IS FILE-STATUS.

*****************************************************************
*                                                               *
*                   DATA DIVISION                               *
*                                                               *
*****************************************************************
 DATA DIVISION.
   FILE SECTION.
    FD INPUT-DATA
     BLOCK CONTAINS 0 RECORDS
     RECORD CONTAINS 80 CHARACTERS
     LABEL RECORDS OMITTED
     RECORDING MODE F.
    01  INPUT-RECORD.
     03  POST-DATE-IN               PIC 9(4).
     03  TRANSACTION-DESCRIPTION    PIC X(40).
     03  TRANSACTION-AMOUNT-IN      PIC S9(7)V9(2).

   WORKING-STORAGE SECTION.

    01  FILE-STATUS                    PIC 99.
    01  CUST-IN.
     03  CUST-NAME                  PIC X(25) VALUE SPACES.
     03  CUST-ST-ADDR               PIC X(30) VALUE SPACES.
     03  CUST-CITY-STATE            PIC X(35) VALUE SPACES.
     03  ACCOUNT-NUM-IN             PIC 9(16) VALUE ZERO.
     03  CUSTOMER-BALANCE-IN        PIC S9(7)V9(2) BINARY.

    01  TRANSACTION-PROCESSING-VARS.
     03  PAGE-HEADER-DEPTH          PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  PAGE-BODY                  PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  BOTTOM-MARGIN              PIC 9(5)V9(4) BINARY
                                    VALUE 20.0.
     03  TABLE-WHITE-SPACE          PIC 9(5)V9(4) BINARY
                                    VALUE 10.0.
     03  PARAGRAPH-WHITE-SPACE      PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  TABLE-DEPTH                PIC 9(5)V9(4) VALUE 0.0.
     03  END-TABLE-POSITION         PIC 9(5)V9(4) VALUE ZERO.
     03  NUM-CUSTOMER-PAGES         PIC 99 BINARY VALUE 1.

    01  CUST-OUT.
     03  ACCOUNT-NUM-OUT            PIC 9999B9999B9999B9999.
     03  OLD-BALANCE-OUT            PIC $$,$$$,$$9.99.
     03  MIN-AMOUNT-DUE-OUT         PIC $$$$,$$9.99.
     03  POST-DATE-OUT              PIC 99/99.
     03  TRANSACTION-DATE-OUT       PIC 99/99.
     03  TRANSACTION-AMOUNT-OUT     PIC $$,$$$,$$9.99CR.
     03  CUSTOMER-BALANCE-OUT       PIC $$,$$$,$$9.99CR.
     03  NUM-CUSTOMER-PAGES-OUT     PIC Z9.

    01  DUE-DATE.
     03  DUE-MONTH                  PIC X(3) VALUE "OCT".
     03  FILLER                     PIC X VALUE SPACE.
     03  DUE-DAY                    PIC X(3) VALUE "15,".
     03  DUE-YEAR                   PIC X(4) VALUE "1992".

    01  PROCESSING-SWITCHES.
     03  DATA-REMAINS-SWITCH        PIC X(3) VALUE "YES".
     03  NEW-CUSTOMER               PIC X(3) VALUE "NO ".
     03  MIN-AMOUNT-DUE-COMP        PIC 9(7)V99.

    01  EXCLAMATION                 PIC X VALUE X"4f".

    01  FONT-IDS.
         05  TIM10MED               PIC X(9).
         05  TIM12MED               PIC X(9).
         05  TIM12MEDITAL           PIC X(9).
         05  TIM12BOLD              PIC X(9).
    01  FIELD-IDS.
         05  FIELDH1                PIC 9(8) BINARY.
         05  FIELDH2                PIC 9(8) BINARY.
         05  FIELDH3                PIC 9(8) BINARY.
         05  FIELDT1                PIC 9(8) BINARY.
         05  FIELDT2                PIC 9(8) BINARY.
         05  FIELDT3                PIC 9(8) BINARY.
         05  FIELDS1                PIC 9(8) BINARY.
         05  FIELDS2                PIC 9(8) BINARY.
    01  ROW-IDS.
         05  ROW1                   PIC X(9).
         05  ROW2                   PIC X(9).
         05  ROW3                   PIC X(9).

     COPY APQCONST.
     COPY APQRCS.
     COPY APQVARS.

/---------------------------------------------------------------*
*****************************************************************
*                                                               *
*   MAINLINE                                                    *
*                                                               *
*           This program produces a sample customer statement.*
*           The statement contains a logo stored in a page    *
*           segment, a paragraph enclosed in a box with       *
*           variable data, account summary information        *
*           which is highlighted in a shaded area, and        *
*           the account transactions contained in a variable  *
*           depth table.                                      *
*                                                             *
*           The mainline logic is as follows:                 *
*                                                             *
*           Initialize the API and define the fonts, fields,  *
*                and rows.                                    *
*           Load the sample data for the first customer       *
*           Process a customer until no more customers to     *
*                process.                                     *
*           End the API.                                      *
*****************************************************************
 PROCEDURE DIVISION.


 MAINLINE.

     OPEN INPUT INPUT-DATA.
     IF FILE-STATUS NOT = ZEROS
             DISPLAY "UNABLE TO OPEN INPUT FILE"
             DISPLAY "FILE STATUS" FILE-STATUS
             STOP RUN.

     PERFORM SETUP-AFPAPI.
     PERFORM READ-DATA.
     PERFORM PROCESS-A-CUSTOMER UNTIL DATA-REMAINS-SWITCH
                 = "NO ".
     PERFORM END-PROCESSING.

     CLOSE INPUT-DATA.
     DISPLAY "APQSAMP2 COMPLETED".
     STOP RUN.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SETUP-AFPAPI.                                            *
*        Initialize the AFP API.                              *
*        Set the output characteristics.                      *
*        Begin a document.                                    *
*        Define the fonts.                                    *
*        Define the fields and rows of a table.               *
*                                                             *
*-------------------------------------------------------------*


 SETUP-AFPAPI.
     CALL    "AFPINIT" USING
                     BY REFERENCE
                        AFPAPI-HANDLE
                     BY CONTENT
                        FALS
                     BY REFERENCE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPINIT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
*                                                             *
*    Set the output characteristics.                          *
*                                                             *
*-------------------------------------------------------------*
         MOVE 8205 TO AFP-OUTPUT-RECORD-SIZE.
         MOVE "APQSAMP2" TO AFP-OUTPUT-FILENAME.
         MOVE "LISTAFP" TO AFP-OUTPUT-FILETYPE.
         MOVE "A1" TO AFP-OUTPUT-FILEMODE.
     CALL "AFPSOUT" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-OUTPUT-RECORD-SIZE
                        AFP-OUTPUT-FILENAME
                        AFP-OUTPUT-FILETYPE
                        AFP-OUTPUT-FILEMODE
                        TRU
                     BY REFERENCE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPSOUT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
*                                                             *
*    Begin the document.                                      *
*                                                             *
*-------------------------------------------------------------*
         MOVE 215 TO AFP-DOC-PAGE-WIDTH.
         MOVE 280 TO AFP-DOC-PAGE-DEPTH.
     CALL    "AFPBDOC"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        MM
                        AFP-DOC-PAGE-WIDTH
                        AFP-DOC-PAGE-DEPTH
                        ORIENTO
                     BY REFERENCE
                        AFP-DOCUMENT-HANDLE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

      MOVE "AFPBDOC" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
*                                                             *
*    Define the fonts.                                        *
*                                                             *
*-------------------------------------------------------------*
         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 10 TO AFP-POINT-SIZE.
      CALL    "AFPDFNT" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-DOCUMENT-HANDLE
                        AFP-CODE-PAGE
                        AFP-DESC-NAME-LENGTH
                        AFP-DESCRIPTIVE-NAME
                        AFP-POINT-SIZE
                        MEDIUM
                        NORMAL
                        ROTATEO
                        ROMAN
                     BY REFERENCE
                        TIM10MED
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

       MOVE "AFPDFNT TIM10MED" TO AFP-ERRDATA.
       PERFORM CHKSUCC.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
      CALL    "AFPDFNT" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-DOCUMENT-HANDLE
                        AFP-CODE-PAGE
                        AFP-DESC-NAME-LENGTH
                        AFP-DESCRIPTIVE-NAME
                        AFP-POINT-SIZE
                        MEDIUM
                        NORMAL
                        ROTATEO
                        ROMAN
                     BY REFERENCE
                        TIM12MED
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

       MOVE "AFPDFNT TIM12MED" TO AFP-ERRDATA.
       PERFORM CHKSUCC.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
      CALL    "AFPDFNT" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-DOCUMENT-HANDLE
                        AFP-CODE-PAGE
                        AFP-DESC-NAME-LENGTH
                        AFP-DESCRIPTIVE-NAME
                        AFP-POINT-SIZE
                        MEDIUM
                        NORMAL
                        ROTATEO
                        ITALIC
                     BY REFERENCE
                        TIM12MEDITAL
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
       MOVE "AFPDFNT TIM12MEDITAL" TO AFP-ERRDATA.
       PERFORM CHKSUCC.
```

```
           MOVE "T1V10500" TO AFP-CODE-PAGE.
           MOVE 22 TO AFP-DESC-NAME-LENGTH.
           MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
           MOVE 12 TO AFP-POINT-SIZE.
       CALL    "AFPDFNT" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-DOCUMENT-HANDLE
                        AFP-CODE-PAGE
                        AFP-DESC-NAME-LENGTH
                        AFP-DESCRIPTIVE-NAME
                        AFP-POINT-SIZE
                        BOLD
                        NORMAL
                        ROTATEO
                        ROMAN
                     BY REFERENCE
                        TIM12BOLD
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

        MOVE "AFPDFNT TIM12BOLD" TO AFP-ERRDATA.
        PERFORM CHKSUCC.

      /-----------------------------------------------------------------*
      *   THIS IS THE START OF THE FIELD AND ROW DEFINITIONS.           *
      *-----------------------------------------------------------------*

           MOVE 18 TO AFP-SHADING-INTENSITY.
           MOVE 0 TO AFP-ALIGNMENT-POSITION.
           MOVE 0.0 TO AFP-LEFT-MARGIN.
           MOVE 0.0 TO AFP-RIGHT-MARGIN.
           MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
           MOVE .5 TO AFP-TOP-THICKNESS.
           MOVE .5 TO AFP-BOTTOM-THICKNESS.
           MOVE .5 TO AFP-LEFT-THICKNESS.
           MOVE .5 TO AFP-RIGHT-THICKNESS.
       CALL "AFPDFLD" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-DOCUMENT-HANDLE
                        FOCENTER
                        AFP-ALIGNMENT-POSITION
                        VERCENTER
                        AFP-LEFT-MARGIN
                        AFP-RIGHT-MARGIN
                        AFP-LINE-SPACING
                        TXTORO-0
                        SCREEN
                        AFP-SHADING-INTENSITY
                        AFP-TOP-THICKNESS
                        AFP-BOTTOM-THICKNESS
                        AFP-LEFT-THICKNESS
                        AFP-RIGHT-THICKNESS
                     BY REFERENCE
                        FIELDH1
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

        MOVE "AFPDFLD FIELDH1" TO AFP-ERRDATA.
        PERFORM CHKSUCC.

       CALL "AFPDFLD" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-DOCUMENT-HANDLE
                        FOCENTER
                        AFP-ALIGNMENT-POSITION
                        VERCENTER
                        AFP-LEFT-MARGIN
                        AFP-RIGHT-MARGIN
                        AFP-LINE-SPACING
                        TXTORO-0
                        SCREEN
                        AFP-SHADING-INTENSITY
                        AFP-TOP-THICKNESS
                        AFP-BOTTOM-THICKNESS
                        AFP-LEFT-THICKNESS
                        AFP-RIGHT-THICKNESS
                     BY REFERENCE
                        FIELDH2
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

        MOVE "AFPDFLD FIELDH2" TO AFP-ERRDATA.
        PERFORM CHKSUCC.

       CALL "AFPDFLD" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-DOCUMENT-HANDLE
                        FOCENTER
                        AFP-ALIGNMENT-POSITION
                        VERCENTER
                        AFP-LEFT-MARGIN
                        AFP-RIGHT-MARGIN
                        AFP-LINE-SPACING
                        TXTORO-0
                        SCREEN
                        AFP-SHADING-INTENSITY
                        AFP-TOP-THICKNESS
                        AFP-BOTTOM-THICKNESS
                        AFP-LEFT-THICKNESS
                        AFP-RIGHT-THICKNESS
                     BY REFERENCE
                        FIELDH3
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

        MOVE "AFPDFLD FIELDH3" TO AFP-ERRDATA.
        PERFORM CHKSUCC.

           MOVE 3 TO AFP-NUMBER-COLUMNS.
           MOVE 1 TO AFP-NUMBER-SUBROWS.
           MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
           MOVE FIELDH1 TO AFP-COLUMN-ARRANGE (1, 1).
           MOVE 25.0 TO AFP-COLUMN-WIDTH (1).
           MOVE FIELDH2 TO AFP-COLUMN-ARRANGE (1, 2).
           MOVE 70.0 TO AFP-COLUMN-WIDTH (2).
           MOVE FIELDH3 TO AFP-COLUMN-ARRANGE (1, 3).
           MOVE 30.0 TO AFP-COLUMN-WIDTH (3).
           CALL "AFPDROW" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-DOCUMENT-HANDLE
                        AFP-MIN-SUBROW-DEPTH-ARRAY
                        AFP-TOP-THICKNESS
                        AFP-BOTTOM-THICKNESS
                        AFP-NUMBER-COLUMNS
                        AFP-NUMBER-SUBROWS
                        AFP-ROW-ARRANGE-ARRAY
                        AFP-COLUMN-WIDTH-ARRAY
                     BY REFERENCE
                        ROW1
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

        MOVE "AFPDROW ROW1" TO AFP-ERRDATA.
        PERFORM CHKSUCC.

      /-----------------------------------------------------------------*
      *  Define the transaction row.                                    *
      *-----------------------------------------------------------------*
           MOVE 0 TO AFP-SHADING-INTENSITY
           MOVE 0 TO AFP-ALIGNMENT-POSITION.
           MOVE 1.0 TO AFP-LEFT-MARGIN.
           MOVE 1.0 TO AFP-RIGHT-MARGIN.
           MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
           MOVE 0.5 TO AFP-TOP-THICKNESS.
           MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
           MOVE 0.5 TO AFP-LEFT-THICKNESS.
           MOVE 0.5 TO AFP-RIGHT-THICKNESS.
       CALL "AFPDFLD" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-DOCUMENT-HANDLE
                        FOCENTER
```

```
                   AFP-ALIGNMENT-POSITION
                   VERCENTER
                   AFP-LEFT-MARGIN
                   AFP-RIGHT-MARGIN
                   AFP-LINE-SPACING
                   TXTORO-O
                   NOSHADE
                   AFP-SHADING-INTENSITY
                   AFP-TOP-THICKNESS
                   AFP-BOTTOM-THICKNESS
                   AFP-LEFT-THICKNESS
                   AFP-RIGHT-THICKNESS
                BY REFERENCE
                   FIELDT1
                   AFP-RET-CODE
                   AFP-SEVERITY-CODE.

 MOVE "AFPDFLD FIELDT1" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

CALL "AFPDFLD" USING
                BY CONTENT
                   AFPAPI-HANDLE
                   AFP-DOCUMENT-HANDLE
                   FOCENTER
                   AFP-ALIGNMENT-POSITION
                   VERCENTER
                   AFP-LEFT-MARGIN
                   AFP-RIGHT-MARGIN
                   AFP-LINE-SPACING
                   TXTORO-O
                   NOSHADE
                   AFP-SHADING-INTENSITY
                   AFP-TOP-THICKNESS
                   AFP-BOTTOM-THICKNESS
                   AFP-LEFT-THICKNESS
                   AFP-RIGHT-THICKNESS
                BY REFERENCE
                   FIELDT2
                   AFP-RET-CODE
                   AFP-SEVERITY-CODE.

 MOVE "AFPDFLD FIELDT2" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

    MOVE 0.0 TO AFP-LEFT-MARGIN.
    MOVE 20 TO AFP-ALIGNMENT-POSITION.
CALL "AFPDFLD" USING
                BY CONTENT
                   AFPAPI-HANDLE
                   AFP-DOCUMENT-HANDLE
                   FOCENTER
                   AFP-ALIGNMENT-POSITION
                   VERCENTER
                   AFP-LEFT-MARGIN
                   AFP-RIGHT-MARGIN
                   AFP-LINE-SPACING
                   TXTORO-O
                   NOSHADE
                   AFP-SHADING-INTENSITY
                   AFP-TOP-THICKNESS
                   AFP-BOTTOM-THICKNESS
                   AFP-LEFT-THICKNESS
                   AFP-RIGHT-THICKNESS
                BY REFERENCE
                   FIELDT3
                   AFP-RET-CODE
                   AFP-SEVERITY-CODE.

 MOVE "AFPDFLD FIELDT3" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

    MOVE 0.5 TO AFP-TOP-THICKNESS.
    MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
    MOVE 1 TO AFP-NUMBER-SUBROWS.
    MOVE 3 TO AFP-NUMBER-COLUMNS.
    MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
    MOVE FIELDT1 TO AFP-COLUMN-ARRANGE (1, 1).
    MOVE 25.0 TO AFP-COLUMN-WIDTH (1).
    MOVE FIELDT2 TO AFP-COLUMN-ARRANGE (1, 2).
    MOVE 70.0 TO AFP-COLUMN-WIDTH (2).
    MOVE FIELDT3 TO AFP-COLUMN-ARRANGE (1, 3).
    MOVE 30.0 TO AFP-COLUMN-WIDTH (3).
    CALL "AFPDROW" USING
                BY CONTENT
                   AFPAPI-HANDLE
                   AFP-DOCUMENT-HANDLE
                   AFP-MIN-SUBROW-DEPTH-ARRAY
                   AFP-TOP-THICKNESS
                   AFP-BOTTOM-THICKNESS
                   AFP-NUMBER-COLUMNS
                   AFP-NUMBER-SUBROWS
                   AFP-ROW-ARRANGE-ARRAY
                   AFP-COLUMN-WIDTH-ARRAY
                BY REFERENCE
                   ROW2
                   AFP-RET-CODE
                   AFP-SEVERITY-CODE.

  MOVE "AFPDROW ROW2" TO AFP-ERRDATA.
  PERFORM CHKSUCC.

/-------------------------------------------------------------*
*  Define the summary row.                                    *
*-------------------------------------------------------------*
     MOVE 0 TO AFP-ALIGNMENT-POSITION.
     MOVE 1.0 TO AFP-LEFT-MARGIN.
     MOVE 1.0 TO AFP-RIGHT-MARGIN.
     MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
     MOVE 18 TO AFP-SHADING-INTENSITY.
     MOVE 0.5 TO AFP-TOP-THICKNESS.
     MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
     MOVE 0.5 TO AFP-LEFT-THICKNESS.
     MOVE 0.5 TO AFP-RIGHT-THICKNESS.
    CALL "AFPDFLD" USING
                BY CONTENT
                   AFPAPI-HANDLE
                   AFP-DOCUMENT-HANDLE
                   FOCENTER
                   AFP-ALIGNMENT-POSITION
                   VERCENTER
                   AFP-LEFT-MARGIN
                   AFP-RIGHT-MARGIN
                   AFP-LINE-SPACING
                   TXTORO-O
                   SCREEN
                   AFP-SHADING-INTENSITY
                   AFP-TOP-THICKNESS
                   AFP-BOTTOM-THICKNESS
                   AFP-LEFT-THICKNESS
                   AFP-RIGHT-THICKNESS
                BY REFERENCE
                   FIELDS1
                   AFP-RET-CODE
                   AFP-SEVERITY-CODE.

  MOVE "AFPDFLD FIELDS1" TO AFP-ERRDATA.
  PERFORM CHKSUCC.
```

```
         MOVE 0.0 TO AFP-LEFT-MARGIN.
         MOVE 20 TO AFP-ALIGNMENT-POSITION.
     CALL "AFPDFLD" USING
                  BY CONTENT
                     AFPAPI-HANDLE
                     AFP-DOCUMENT-HANDLE
                     FOCENTER
                     AFP-ALIGNMENT-POSITION
                     VERCENTER
                     AFP-LEFT-MARGIN
                     AFP-RIGHT-MARGIN
                     AFP-LINE-SPACING
                     TXTORO-O
                     SCREEN
                     AFP-SHADING-INTENSITY
                     AFP-TOP-THICKNESS
                     AFP-BOTTOM-THICKNESS
                     AFP-LEFT-THICKNESS
                     AFP-RIGHT-THICKNESS
                  BY REFERENCE
                     FIELDS2
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

      MOVE "AFPDFLD FIELDS2" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

         MOVE 0.0 TO AFP-TOP-THICKNESS.
         MOVE 0.0 TO AFP-BOTTOM-THICKNESS.
         MOVE 1 TO AFP-NUMBER-SUBROWS.
         MOVE 2 TO AFP-NUMBER-COLUMNS.
         MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
         MOVE FIELDS1 TO AFP-COLUMN-ARRANGE (1, 1).
         MOVE 95.0 TO AFP-COLUMN-WIDTH (1).
         MOVE FIELDS2 TO AFP-COLUMN-ARRANGE (1, 2).
         MOVE 30.0 TO AFP-COLUMN-WIDTH (2).
         CALL "AFPDROW" USING
                  BY CONTENT
                     AFPAPI-HANDLE
                     AFP-DOCUMENT-HANDLE
                     AFP-MIN-SUBROW-DEPTH-ARRAY
                     AFP-TOP-THICKNESS
                     AFP-BOTTOM-THICKNESS
                     AFP-NUMBER-COLUMNS
                     AFP-NUMBER-SUBROWS
                     AFP-ROW-ARRANGE-ARRAY
                     AFP-COLUMN-WIDTH-ARRAY
                  BY REFERENCE
                     ROW3
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

      MOVE "AFPDROW ROW3" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

/-----------------------------------------------------------------*
*-----------------------------------------------------------------*
*                                                                 *
*      READ SAMPLE DATA                                           *
*                                                                 *
*-----------------------------------------------------------------*
 READ-DATA.
     READ INPUT-DATA AT END
          MOVE "NO" TO DATA-REMAINS-SWITCH
     END-READ.
     IF FILE-STATUS NOT = ZEROS AND FILE-STATUS NOT = 10
             DISPLAY "READ ERROR"
             DISPLAY "FILE STATUS" FILE-STATUS
             STOP RUN.
*-----------------------------------------------------------------*
* If this is a new customer, read the customer address and      *
* account balance.                                              *
*-----------------------------------------------------------------*
     IF POST-DATE-IN EQUAL ZEROS
       MOVE "YES" TO NEW-CUSTOMER
       STRING TRANSACTION-DESCRIPTION DELIMITED BY " "
          INTO ACCOUNT-NUM-IN ON OVERFLOW CONTINUE
       END-STRING
*-----------------------------------------------------------------*
* Read the customer name.                                       *
*-----------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-DESCRIPTION TO CUST-NAME

*-----------------------------------------------------------------*
* Read the customer street address.                             *
*-----------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-DESCRIPTION TO CUST-ST-ADDR

*-----------------------------------------------------------------*
* Read the customer city and state.                             *
*-----------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-DESCRIPTION TO CUST-CITY-STATE

*-----------------------------------------------------------------*
* Read the customer balance.                                    *
*-----------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-AMOUNT-IN TO CUSTOMER-BALANCE-IN
*-----------------------------------------------------------------*
* Read the first customer transaction.                          *
*-----------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       IF FILE-STATUS NOT = ZEROS
             DISPLAY "READ ERROR"
             DISPLAY "FILE STATUS" FILE-STATUS
             STOP RUN
       ELSE CONTINUE
       END-IF
     ELSE CONTINUE
     END-IF.
/-----------------------------------------------------------------*
*-----------------------------------------------------------------*
*                                                                 *
*    PROCESS THE CUSTOMER.                                        *
*                                                                 *
*           Begin a page                                          *
*           Write the page header                                 *
*           Write the paragraph                                   *
*           Process the customer transactions                     *
*           Write the page footer.                                *
*           End the page                                          *
*-----------------------------------------------------------------*

 PROCESS-A-CUSTOMER.
     MOVE CUSTOMER-BALANCE-IN TO CUSTOMER-BALANCE-OUT.
*-----------------------------------------------------------------*
* Initialize the number of transactions for this customer to 0. *
*-----------------------------------------------------------------*
     MOVE 1 TO NUM-CUSTOMER-PAGES.

       MOVE AFP-DEFAULT TO AFP-PAGE-WIDTH.
       MOVE AFP-DEFAULT TO AFP-PAGE-DEPTH.
     CALL    "AFPBPAG" USING
                  BY CONTENT
                     AFPAPI-HANDLE
                     AFP-DOCUMENT-HANDLE
                     AFP-PAGE-WIDTH
                     AFP-PAGE-DEPTH
                     ORIENTDOC
                  BY REFERENCE
                     AFP-PAGE-HANDLE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

      MOVE "AFPBPAG" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

     PERFORM CREATE-THE-HEADER.
```

```
*-------------------------------------------------------------*
* Calculate the page body size as the page size less the page  *
* header and bottom margin.                                    *
*-------------------------------------------------------------*
     COMPUTE PAGE-BODY = AFP-DOC-PAGE-DEPTH - PAGE-HEADER-DEPTH -
          BOTTOM-MARGIN.

     PERFORM PROCESS-THE-PARAGRAPH.
*-------------------------------------------------------------*
* Calculate the remaining page body after the paragraph.       *
*-------------------------------------------------------------*
     COMPUTE PAGE-BODY = PAGE-BODY - AFP-PARAGRAPH-DEPTH.

     PERFORM PROCESS-TRANSACTIONS.

     PERFORM CREATE-THE-FOOTER.

     CALL    "AFPEPAG" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                    BY REFERENCE
                       AFP-PAGE-HANDLE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPEPAG" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    CREATE THE HEADER.                                       *
*                                                             *
*-------------------------------------------------------------*

 CREATE-THE-HEADER.
     PERFORM PROCESS-THE-AREA.
*-------------------------------------------------------------*
* Include the Page Segment.                                    *
*-------------------------------------------------------------*
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE 23 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YABS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS IPSG" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE "APQPSEG" TO AFP-PSEG-NAME.
     CALL "AFPIPSG"   USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-PSEG-NAME
                       TRU
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPIPSG" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

     PERFORM PROCESS-THE-ADDRESS.

*-------------------------------------------------------------*
* Draw a rule underneath the address.                          *
*-------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     CALL    "AFPSRTH" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-RULE-THICKNESS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSRTH" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE 73 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YABS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS PRUL" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE 158 TO AFP-RULE-LENGTH.
       CALL "AFPPRUL"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       XDIRECTION
                       AFP-RULE-LENGTH
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPPRUL" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Leave space after the rule.                                  *
*-------------------------------------------------------------*
       MOVE 4 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YREL
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Query the position and calculate the page header depth.      *
*-------------------------------------------------------------*
     CALL    "AFPQPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                    BY REFERENCE
                       AFP-X-COORDINATE
                       PAGE-HEADER-DEPTH
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE AREA.                                        *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-AREA.
       MOVE 50.0 TO AFP-AREA-WIDTH.
       MOVE 65.0 TO AFP-MAX-AREA-DEPTH.
       MOVE 0 TO AFP-SHADING-INTENSITY.
       CALL "AFPCARE"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-AREA-WIDTH
                       AFP-MAX-AREA-DEPTH
                       FALS
                       NOSHADE
                       AFP-SHADING-INTENSITY
                    BY REFERENCE
                       AFP-AREA-HANDLE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPCARE" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Include the Page Overlay.                                   *
*-------------------------------------------------------------*
       MOVE "O1APQL2" TO AFP-OVLY-NAME.
     CALL "AFPIOVL"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-AREA-HANDLE
                       AFP-OVLY-NAME
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPIOVL" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Write the account number.                                   *
*-------------------------------------------------------------*
     CALL    "AFPSFNT" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-AREA-HANDLE
                       TIM10MED
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPSFNT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

       MOVE 49 TO AFP-X-COORDINATE.
       MOVE 7 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-AREA-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YABS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS ACCOUNT-NUM" TO AFP-ERRDATA.
     PERFORM CHKSUCC.
       MOVE ACCOUNT-NUM-IN TO ACCOUNT-NUM-OUT.
       MOVE 19 TO AFP-STRING-LENGTH.
       MOVE ACCOUNT-NUM-OUT TO AFP-CHARACTER-STRING.
     CALL "AFPPCHS"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-AREA-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       R-GHT
                       AFP-ALIGNMENT-CHAR
                       FALS
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPPCHS ACCOUNT-NUM" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Write the due date.                                         *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE 12 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-AREA-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YABS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS DUE-DATE" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE DUE-DATE TO AFP-CHARACTER-STRING.
       MOVE 11 TO AFP-STRING-LENGTH.
     CALL "AFPPCHS"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-AREA-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       R-GHT
                       AFP-ALIGNMENT-CHAR
                       FALS
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPPCHS DUE-DATE" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Write the customer balance.                                 *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE 19 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-AREA-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YABS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS CUST-BAL" TO AFP-ERRDATA.
     PERFORM CHKSUCC.
```

```
      CALL "TRIM" USING CUSTOMER-BALANCE-OUT,
                   BY CONTENT LENGTH OF CUSTOMER-BALANCE-OUT,
                   BY REFERENCE AFP-CHARACTER-STRING,
                   AFP-STRING-LENGTH.
     CALL "AFPPCHS"  USING
                  BY CONTENT
                     AFPAPI-HANDLE
                     AFP-AREA-HANDLE
                     AFP-STRING-LENGTH
                     AFP-CHARACTER-STRING
                     R-GHT
                     AFP-ALIGNMENT-CHAR
                     FALS
                     FALS
                  BY REFERENCE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

     MOVE "AFPPCHS CUST-BAL" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Write the customer payment.                                 *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE 24 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                  BY CONTENT
                     AFPAPI-HANDLE
                     AFP-AREA-HANDLE
                     AFP-X-COORDINATE
                     XABS
                     AFP-Y-COORDINATE
                     YABS
                  BY REFERENCE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

     MOVE "AFPSPOS MIN-AMT-DUE" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

         MULTIPLY .1 BY CUSTOMER-BALANCE-IN GIVING
           MIN-AMOUNT-DUE-COMP ROUNDED.
         MOVE MIN-AMOUNT-DUE-COMP TO MIN-AMOUNT-DUE-OUT.
       CALL "TRIM" USING MIN-AMOUNT-DUE-OUT,
                   BY CONTENT LENGTH OF MIN-AMOUNT-DUE-OUT,
                   BY REFERENCE AFP-CHARACTER-STRING,
                   AFP-STRING-LENGTH.
     CALL "AFPPCHS"  USING
                  BY CONTENT
                     AFPAPI-HANDLE
                     AFP-AREA-HANDLE
                     AFP-STRING-LENGTH
                     AFP-CHARACTER-STRING
                     R-GHT
                     AFP-ALIGNMENT-CHAR
                     FALS
                     FALS
                  BY REFERENCE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

     MOVE "AFPPCHS MIN-AMT-DUE" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

     CALL    "AFPEARE" USING
                  BY CONTENT
                     AFPAPI-HANDLE
                     AFP-AREA-HANDLE
                  BY REFERENCE
                     AFP-AREA-DEPTH
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

      MOVE "AFPEARE" TO AFP-ERRDATA.
      PERFORM CHKSUCC.
*-------------------------------------------------------------*
* Place the area on the page.                                 *
*-------------------------------------------------------------*
       MOVE 137 TO AFP-X-COORDINATE.
       MOVE 23 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                  BY CONTENT
                     AFPAPI-HANDLE
                     AFP-PAGE-HANDLE
                     AFP-X-COORDINATE
                     XABS
                     AFP-Y-COORDINATE
                     YABS
                  BY REFERENCE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

     MOVE "AFPSPOS PARE" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

     CALL "AFPPARE"  USING
                  BY CONTENT
                     AFPAPI-HANDLE
                     AFP-PAGE-HANDLE
                     AFP-AREA-HANDLE
                     ROTATEO
                  BY REFERENCE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

      MOVE "AFPPARE" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Destroy the area from AFP API storage.                      *
*-------------------------------------------------------------*
     CALL "AFPXARE" USING
                  BY CONTENT
                     AFPAPI-HANDLE
                  BY REFERENCE
                     AFP-AREA-HANDLE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

      MOVE "AFPXARE" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE ADDRESS.                                     *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-ADDRESS.
*-------------------------------------------------------------*
* Write the customer name.                                    *
*-------------------------------------------------------------*
     CALL    "AFPSFNT" USING
                  BY CONTENT
                     AFPAPI-HANDLE
                     AFP-PAGE-HANDLE
                     TIM12BOLD
                  BY REFERENCE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

      MOVE "AFPSFNT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.
```

```
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE 56 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YABS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS CUST-NAME" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

     CALL "TRIM" USING CUST-NAME,
                    BY CONTENT LENGTH OF CUST-NAME,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

     CALL "AFPPCHS"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       L-FT
                       AFP-ALIGNMENT-CHAR
                       FALS
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPPCHS CUST-NAME" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

*-----------------------------------------------------------------*
* Write the customer address.                                     *
*-----------------------------------------------------------------*
     CALL    "AFPSFNT" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       TIM10MED
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPSFNT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

       MOVE 1 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YLINES
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS CUST-ST-ADDR" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

     CALL "TRIM" USING CUST-ST-ADDR,
                    BY CONTENT LENGTH OF CUST-ST-ADDR,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

     CALL "AFPPCHS"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       L-FT
                       AFP-ALIGNMENT-CHAR
                       FALS
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPPCHS CUST-ST-ADDR" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE 1 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YLINES
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS CUST-CITY-STATE" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

     CALL "TRIM" USING CUST-CITY-STATE,
                    BY CONTENT LENGTH OF CUST-CITY-STATE,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

     CALL "AFPPCHS"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       L-FT
                       AFP-ALIGNMENT-CHAR
                       FALS
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPPCHS CUST-CITY-STATE" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-----------------------------------------------------------------*
*-----------------------------------------------------------------*
*                                                                 *
*    PROCESS THE PARAGRAPH.                                       *
*                                                                 *
*-----------------------------------------------------------------*

 PROCESS-THE-PARAGRAPH.
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE PARAGRAPH-WHITE-SPACE TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YREL
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS AFPBPAR" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE 0.5 TO AFP-RULE-THICKNESS.
     CALL    "AFPSRTH" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-RULE-THICKNESS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
```

```
MOVE "AFPSRTH AFPBPAR" TO AFP-ERRDATA.
PERFORM CHKSUCC.

  MOVE 0 TO AFP-FIRST-LINE-INDENT.
  MOVE AFP-DEFAULT TO AFP-FIRST-LINE-OFFSET.
  MOVE 10.0 TO AFP-LEFT-MARGIN.
  MOVE 135.0 TO AFP-LINE-LENGTH.
  MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
  MOVE 158.0 TO AFP-RT-RULE-OFFSET.
  MOVE 0.0 TO AFP-BOT-RULE-OFFSET.
  MOVE 0 TO AFP-SHADING-INTENSITY.
CALL "AFPBPAR" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-PAGE-HANDLE
                  AFP-FIRST-LINE-INDENT
                  FOJUSTIFY
                  AFP-FIRST-LINE-OFFSET
                  AFP-LEFT-MARGIN
                  AFP-LINE-LENGTH
                  AFP-LINE-SPACING
                  TRU
                  AFP-RT-RULE-OFFSET
                  AFP-BOT-RULE-OFFSET
                  NOSHADE
                  AFP-SHADING-INTENSITY
               BY REFERENCE
                  AFP-PARAGRAPH-HANDLE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

 MOVE "AFPBPAR" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

CALL    "AFPSFNT" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-PARAGRAPH-HANDLE
                  TIM12BOLD
               BY REFERENCE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

 MOVE "AFPSFNT" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

  MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
  STRING "CONGRATULATIONS, " DELIMITED BY SIZE
    INTO AFP-CHARACTER-STRING.
  CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                BY REFERENCE AFP-STRING-LENGTH.

CALL "AFPPTXT" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-PARAGRAPH-HANDLE
                  AFP-STRING-LENGTH
                  AFP-CHARACTER-STRING
                  TRU
                  FALS
               BY REFERENCE
                  AFP-REMAINING-LENGTH
                  AFP-REMAINING-STRING
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

 MOVE "AFPPTXT" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

CALL "TRIM" USING CUST-NAME,
                  BY CONTENT LENGTH OF CUST-NAME,
                  BY REFERENCE AFP-CHARACTER-STRING,
                  AFP-STRING-LENGTH.
CALL    "AFPSFNT" USING
                  BY CONTENT
                     AFPAPI-HANDLE
                     AFP-PARAGRAPH-HANDLE
                     TIM12MED
                  BY REFERENCE
                     AFP-RET-CODE
                     AFP-SEVERITY-CODE.

 MOVE "AFPSFNT" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

CALL "AFPPTXT" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-PARAGRAPH-HANDLE
                  AFP-STRING-LENGTH
                  AFP-CHARACTER-STRING
                  TRU
                  FALS
               BY REFERENCE
                  AFP-REMAINING-LENGTH
                  AFP-REMAINING-STRING
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

 MOVE "AFPPTXT" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

  MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
  STRING EXCLAMATION  DELIMITED BY SIZE
         "  Because of your excellent credit rating, you are
-    "now eligible for free credit insurance which"
     DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
  CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                BY REFERENCE AFP-STRING-LENGTH.

CALL "AFPPTXT" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-PARAGRAPH-HANDLE
                  AFP-STRING-LENGTH
                  AFP-CHARACTER-STRING
                  TRU
                  FALS
               BY REFERENCE
                  AFP-REMAINING-LENGTH
                  AFP-REMAINING-STRING
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

 MOVE "AFPPTXT" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

  MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
  STRING " protects you in case your Primo card is ever lost
-     "or stolen.  "
     DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
  CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                BY REFERENCE AFP-STRING-LENGTH.

CALL "AFPPTXT" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-PARAGRAPH-HANDLE
                  AFP-STRING-LENGTH
                  AFP-CHARACTER-STRING
                  TRU
                  FALS
               BY REFERENCE
                  AFP-REMAINING-LENGTH
                  AFP-REMAINING-STRING
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.
```

```
      MOVE "AFPPTXT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.


       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING "  Call NOW for more information"
                 DELIMITED BY SIZE
              EXCLAMATION DELIMITED BY SIZE
        INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                     BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                     BY REFERENCE AFP-STRING-LENGTH.

     CALL "AFPPTXT" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PARAGRAPH-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       TRU
                       TRU
                    BY REFERENCE
                       AFP-REMAINING-LENGTH
                       AFP-REMAINING-STRING
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPPTXT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

     CALL    "AFPEPAR" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                    BY REFERENCE
                       AFP-PARAGRAPH-HANDLE
                       AFP-PARAGRAPH-DEPTH
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPEPAR" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Calculate the amount of space taken up by the paragraph.    *
*-------------------------------------------------------------*
     COMPUTE AFP-PARAGRAPH-DEPTH = AFP-PARAGRAPH-DEPTH +
                                   PARAGRAPH-WHITE-SPACE.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS TRANSACTIONS.                                    *
*                                                             *
*           Begin a table.                                    *
*           Write the header rows.                            *
*           Write a transaction row until no more data for    *
*                 this customer or no more data.              *
*           Write the summary row.                            *
*           End the table.                                    *
*           Compute the table depth.                          *
*-------------------------------------------------------------*

 PROCESS-TRANSACTIONS.

       MOVE "NO " TO NEW-CUSTOMER.

*-------------------------------------------------------------*
* Start the table whose maximum depth is the remaining page   *
* body space after the white space preceding the table.       *
*-------------------------------------------------------------*
       MOVE 45 TO AFP-X-COORDINATE.
       MOVE TABLE-WHITE-SPACE TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YREL
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS AFPBTBL" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       COMPUTE AFP-MAX-TABLE-DEPTH = PAGE-BODY -
                                     TABLE-WHITE-SPACE.
       MOVE 125.0 TO AFP-TABLE-WIDTH.
       MOVE 1.0 TO AFP-TOP-THICKNESS.
       MOVE .5 TO AFP-BOTTOM-THICKNESS.
       MOVE .5 TO AFP-LEFT-THICKNESS.
       MOVE .5 TO AFP-RIGHT-THICKNESS.
     CALL "AFPBTBL"    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-TABLE-WIDTH
                       AFP-MAX-TABLE-DEPTH
                       ROTATEO
                       AFP-TOP-THICKNESS
                       AFP-BOTTOM-THICKNESS
                       AFP-LEFT-THICKNESS
                       AFP-RIGHT-THICKNESS
                    BY REFERENCE
                       AFP-TABLE-HANDLE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPBTBL" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Write the table header rows.                                *
*-------------------------------------------------------------*
     PERFORM WRITE-HEADER-ROWS.

*-------------------------------------------------------------*
* Write the transaction rows.                                 *
*-------------------------------------------------------------*
     PERFORM WRITE-TRANSACTIONS UNTIL
       NEW-CUSTOMER = "YES" OR DATA-REMAINS-SWITCH = "NO".

*-------------------------------------------------------------*
* Write the table summary rows.                               *
*-------------------------------------------------------------*
     PERFORM WRITE-SUMMARY-ROW.
*-------------------------------------------------------------*
* If the end of the table was reached, end this page, start   *
* a new page, and write the summary row that didn't fit.      *
*-------------------------------------------------------------*
     IF AFP-SEVERITY-CODE = WARNING
               PERFORM END-CUST-PAGE
               PERFORM WRITE-SUMMARY-ROW.
```

```
*-------------------------------------------------------------*
* End the table.                                              *
*-------------------------------------------------------------*
     CALL "AFPETBL" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                    BY REFERENCE
                       AFP-TABLE-HANDLE
                       AFP-TABLE-DEPTH
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPETBL" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Calculate the amount of space taken up by the table.        *
*-------------------------------------------------------------*
     COMPUTE AFP-TABLE-DEPTH = AFP-TABLE-DEPTH +
                               TABLE-WHITE-SPACE.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-HEADER-ROWS.                                       *
*                                                             *
*            Write the header row for the table.              *
*-------------------------------------------------------------*
 WRITE-HEADER-ROWS.
     CALL "AFPBROW"
                   USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       ROW1
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPBROW ROW1" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Write the first field in column 1.                          *
*-------------------------------------------------------------*
     CALL "AFPBFLD"
                   USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       FIELDH1
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPBFLD FIELDH1" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

     CALL    "AFPSFNT" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       TIM12MED
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPSFNT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

       MOVE "Date" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.
     CALL "AFPPCHS"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       CENTER
                       AFP-ALIGNMENT-CHAR
                       FALS
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPPCHS FIELDH1" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

     CALL "AFPEFLD" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPEFLD FIELDH1" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Write the second field in column 2.                         *
*-------------------------------------------------------------*
     CALL "AFPBFLD"
                  USING
                   BY CONTENT
                      AFPAPI-HANDLE
                      AFP-TABLE-HANDLE
                      FIELDH2
                   BY REFERENCE
                      AFP-RET-CODE
                      AFP-SEVERITY-CODE.

     MOVE "AFPBFLD FIELDH2" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Transaction Description" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.


     CALL "AFPPCHS"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       CENTER
                       AFP-ALIGNMENT-CHAR
                       FALS
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPPCHS FIELDH2" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

     CALL "AFPEFLD" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPEFLD FIELDH2" TO AFP-ERRDATA.
      PERFORM CHKSUCC.
```

```
*-------------------------------------------------------------*
* Write the third field in column 3.                          *
*-------------------------------------------------------------*
     CALL "AFPBFLD"
                  USING
                   BY CONTENT
                      AFPAPI-HANDLE
                      AFP-TABLE-HANDLE
                      FIELDH3
                   BY REFERENCE
                      AFP-RET-CODE
                      AFP-SEVERITY-CODE.

     MOVE "AFPBFLD FIELDH3" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Amount" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

     CALL "AFPPCHS"  USING
                   BY CONTENT
                      AFPAPI-HANDLE
                      AFP-TABLE-HANDLE
                      AFP-STRING-LENGTH
                      AFP-CHARACTER-STRING
                      CENTER
                      AFP-ALIGNMENT-CHAR
                      FALS
                      FALS
                   BY REFERENCE
                      AFP-RET-CODE
                      AFP-SEVERITY-CODE.

      MOVE "AFPPCHS FIELDH3" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

     CALL "AFPEFLD" USING
                   BY CONTENT
                      AFPAPI-HANDLE
                      AFP-TABLE-HANDLE
                   BY REFERENCE
                      AFP-RET-CODE
                      AFP-SEVERITY-CODE.

      MOVE "AFPEFLD FIELDH3" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

     CALL "AFPEROW"
                  USING
                   BY CONTENT
                      AFPAPI-HANDLE
                      AFP-TABLE-HANDLE
                   BY REFERENCE
                      AFP-CURRENT-TABLE-DEPTH
                      AFP-RET-CODE
                      AFP-SEVERITY-CODE.

     MOVE "AFPEROW ROW1" TO AFP-ERRDATA.
     PERFORM CHKSUCC.
/------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-TRANSACTIONS.                                      *
*                                                             *
*            Write a transaction row.                         *
*            If the maximum table depth was reached,          *
*                 end the page and start a new page.          *
*            Read another data record.                        *
*-------------------------------------------------------------*
 WRITE-TRANSACTIONS.
     PERFORM WRITE-TRANSACTION-ROW.
*-------------------------------------------------------------*
*            If the end of the table was reached,             *
*            end this page, start a new page,                 *
*            and write the transaction row that didn't fit.   *
*-------------------------------------------------------------*
     IF AFP-SEVERITY-CODE = WARNING
               PERFORM END-CUST-PAGE
               PERFORM WRITE-TRANSACTION-ROW.

     PERFORM READ-DATA.

/------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-TRANSACTION-ROW.                                   *
*                                                             *
*            Begin a row.                                     *
*            Write the post date to the first field in the table*
*            Write the transaction description to the second  *
*                 field.                                      *
*            Write the transaction amount to the third field. *
*            End the row.                                     *
*-------------------------------------------------------------*
 WRITE-TRANSACTION-ROW.

     CALL "AFPBROW"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       ROW2
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPBROW ROW2" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Write the transaction date in column 1.                     *
*-------------------------------------------------------------*
     CALL "AFPBFLD"
                   USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       FIELDT1
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPBFLD FIELDT1" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

     CALL    "AFPSFNT" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       TIM10MED
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPSFNT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

       MOVE POST-DATE-IN TO POST-DATE-OUT.
     CALL "TRIM" USING POST-DATE-OUT,
                    BY CONTENT LENGTH OF POST-DATE-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.
```

```
     CALL "AFPPCHS"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       CENTER
                       AFP-ALIGNMENT-CHAR
                       FALS
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPPCHS FIELDT1" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

     CALL "AFPEFLD" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPEFLD FIELDT1" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-----------------------------------------------------------------*
* Write the transaction description in column 2.                 *
*-----------------------------------------------------------------*
     CALL "AFPBFLD"
                   USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       FIELDT2
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPBFLD FIELDT2" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING TRANSACTION-DESCRIPTION DELIMITED BY SIZE
            INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                     BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                     BY REFERENCE AFP-STRING-LENGTH.

     CALL "AFPPCHS"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       L-FT
                       AFP-ALIGNMENT-CHAR
                       FALS
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPPCHS FIELDT2" TO AFP-ERRDATA.
      PERFORM CHKSUCC.


     CALL "AFPEFLD" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPEFLD FIELDT2" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-----------------------------------------------------------------*
* Write the transaction amount in column 3.                      *
*-----------------------------------------------------------------*
     CALL "AFPBFLD" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       FIELDT3
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPBFLD FIELDT3" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE TRANSACTION-AMOUNT-IN TO TRANSACTION-AMOUNT-OUT.
     CALL "TRIM" USING TRANSACTION-AMOUNT-OUT,
                     BY CONTENT LENGTH OF TRANSACTION-AMOUNT-OUT,
                     BY REFERENCE AFP-CHARACTER-STRING,
                     AFP-STRING-LENGTH.

       MOVE "." TO AFP-ALIGNMENT-CHAR.
     CALL "AFPPCHS"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       CHAR
                       AFP-ALIGNMENT-CHAR
                       FALS
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPPCHS FIELDT3" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

     CALL "AFPEFLD" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPEFLD FIELDT3" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

     CALL "AFPEROW" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                    BY REFERENCE
                       AFP-CURRENT-TABLE-DEPTH
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPEROW ROW2" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-----------------------------------------------------------------*
*-----------------------------------------------------------------*
*                                                                 *
*    WRITE-SUMMARY-ROW.                                           *
*                                                                 *
*            Write the customer summary row.                      *
*-----------------------------------------------------------------*
 WRITE-SUMMARY-ROW.
     CALL "AFPBROW"
                   USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       ROW3
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
```

```
MOVE "AFPBROW ROW3" TO AFP-ERRDATA.
PERFORM CHKSUCC.

CALL "AFPBFLD"
              USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-TABLE-HANDLE
                  FIELDS1
               BY REFERENCE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

MOVE "AFPBFLD FIELDS1" TO AFP-ERRDATA.
PERFORM CHKSUCC.

CALL    "AFPSFNT" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-TABLE-HANDLE
                  TIM12MED
               BY REFERENCE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

 MOVE "AFPSFNT" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

  MOVE "Total Amount" TO AFP-STRING-IN.
CALL "TRIM" USING AFP-STRING-IN,
                  BY CONTENT LENGTH OF AFP-STRING-IN,
                  BY REFERENCE AFP-CHARACTER-STRING,
                  AFP-STRING-LENGTH.

CALL "AFPPCHS"  USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-TABLE-HANDLE
                  AFP-STRING-LENGTH
                  AFP-CHARACTER-STRING
                  CENTER
                  AFP-ALIGNMENT-CHAR
                  FALS
                  FALS
               BY REFERENCE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

 MOVE "AFPPCHS FIELDS1" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

CALL "AFPEFLD" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-TABLE-HANDLE
               BY REFERENCE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

 MOVE "AFPEFLD FIELDS1" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

CALL "AFPBFLD"
              USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-TABLE-HANDLE
                  FIELDS2
               BY REFERENCE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

MOVE "AFPBFLD FIELDS2" TO AFP-ERRDATA.
PERFORM CHKSUCC.

CALL "TRIM" USING CUSTOMER-BALANCE-OUT,
                  BY CONTENT LENGTH OF CUSTOMER-BALANCE-OUT,
                  BY REFERENCE AFP-CHARACTER-STRING,
                  AFP-STRING-LENGTH.
CALL "AFPPCHS"  USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-TABLE-HANDLE
                  AFP-STRING-LENGTH
                  AFP-CHARACTER-STRING
                  CHAR
                  AFP-ALIGNMENT-CHAR
                  FALS
                  FALS
               BY REFERENCE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

 MOVE "AFPPCHS FIELDS2" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

CALL "AFPEFLD" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-TABLE-HANDLE
               BY REFERENCE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

 MOVE "AFPEFLD FIELDS2" TO AFP-ERRDATA.
 PERFORM CHKSUCC.

CALL "AFPEROW" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-TABLE-HANDLE
               BY REFERENCE
                  AFP-CURRENT-TABLE-DEPTH
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

MOVE "AFPEROW ROW3" TO AFP-ERRDATA.
PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    CREATE-THE-FOOTER.                                       *
*                                                             *
*            Write the page footer.                           *
*-------------------------------------------------------------*
 CREATE-THE-FOOTER.
       MOVE 108 TO AFP-X-COORDINATE.
       MOVE 270 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-PAGE-HANDLE
                  AFP-X-COORDINATE
                  XABS
                  AFP-Y-COORDINATE
                  YABS
               BY REFERENCE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

MOVE "AFPSPOS FOOTER" TO AFP-ERRDATA.
PERFORM CHKSUCC.

CALL    "AFPSFNT" USING
               BY CONTENT
                  AFPAPI-HANDLE
                  AFP-PAGE-HANDLE
                  TIM10MED
               BY REFERENCE
                  AFP-RET-CODE
                  AFP-SEVERITY-CODE.

 MOVE "AFPSFNT" TO AFP-ERRDATA.
 PERFORM CHKSUCC.
```

```
      MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
      STRING "Page " DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
      CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

     CALL "AFPPCHS"  USING
                   BY CONTENT
                      AFPAPI-HANDLE
                      AFP-PAGE-HANDLE
                      AFP-STRING-LENGTH
                      AFP-CHARACTER-STRING
                      CENTER
                      AFP-ALIGNMENT-CHAR
                      FALS
                      FALS
                   BY REFERENCE
                      AFP-RET-CODE
                      AFP-SEVERITY-CODE.

      MOVE "AFPPCHS PAGE" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

       MOVE NUM-CUSTOMER-PAGES TO NUM-CUSTOMER-PAGES-OUT.
     CALL "TRIM" USING NUM-CUSTOMER-PAGES-OUT,
                       BY CONTENT LENGTH OF
                          NUM-CUSTOMER-PAGES-OUT,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

     CALL "AFPPCHS"  USING
                   BY CONTENT
                      AFPAPI-HANDLE
                      AFP-PAGE-HANDLE
                      AFP-STRING-LENGTH
                      AFP-CHARACTER-STRING
                      L-FT
                      AFP-ALIGNMENT-CHAR
                      FALS
                      FALS
                   BY REFERENCE
                      AFP-RET-CODE
                      AFP-SEVERITY-CODE.

      MOVE "AFPPCHS" TO AFP-ERRDATA.
      PERFORM CHKSUCC.
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    END-CUST-PAGE.                                           *
*                                                             *
*           End the table.                                    *
*           Write the page footer.                            *
*           End the page.                                     *
*           Start a new page.                                 *
*           Begin a table.                                    *
*           Write the header rows.                            *
*-------------------------------------------------------------*
 END-CUST-PAGE.
     CALL "AFPETBL"
                  USING
                   BY CONTENT
                      AFPAPI-HANDLE
                   BY REFERENCE
                      AFP-TABLE-HANDLE
                      AFP-TABLE-DEPTH
                      AFP-RET-CODE
                      AFP-SEVERITY-CODE.

      MOVE "AFPETBL CONT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

************************************************************
*           Write the footer.                              *
************************************************************
     PERFORM CREATE-THE-FOOTER.
     CALL    "AFPEPAG" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                     BY REFERENCE
                        AFP-PAGE-HANDLE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

      MOVE "AFPEPAG" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

************************************************************
*           Start a new page.                              *
************************************************************
     ADD 1 TO NUM-CUSTOMER-PAGES.
       MOVE AFP-DEFAULT TO AFP-PAGE-WIDTH.
       MOVE AFP-DEFAULT TO AFP-PAGE-DEPTH.
     CALL    "AFPBPAG" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-DOCUMENT-HANDLE
                        AFP-PAGE-WIDTH
                        AFP-PAGE-DEPTH
                        ORIENTDOC
                     BY REFERENCE
                        AFP-PAGE-HANDLE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

      MOVE "CONT AFPBPAG" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

     PERFORM CREATE-THE-CONT-HEADER.
*-------------------------------------------------------------*
* Calculate the page body space as the page size less the     *
* continuation page header size and bottom margin.            *
*-------------------------------------------------------------*
     COMPUTE PAGE-BODY = AFP-DOC-PAGE-DEPTH - PAGE-HEADER-DEPTH -
          BOTTOM-MARGIN.

*-------------------------------------------------------------*
*           Begin a table.                                    *
*-------------------------------------------------------------*
       MOVE 45 TO AFP-X-COORDINATE.
       MOVE TABLE-WHITE-SPACE TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-PAGE-HANDLE
                        AFP-X-COORDINATE
                        XABS
                        AFP-Y-COORDINATE
                        YREL
                     BY REFERENCE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

     MOVE "AFPSPOS AFPBTBL CONT" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       COMPUTE AFP-MAX-TABLE-DEPTH = PAGE-BODY -
                                     TABLE-WHITE-SPACE.
       MOVE 125.0 TO AFP-TABLE-WIDTH.
       MOVE 1.0 TO AFP-TOP-THICKNESS.
       MOVE .5 TO AFP-BOTTOM-THICKNESS.
       MOVE .5 TO AFP-LEFT-THICKNESS.
       MOVE .5 TO AFP-RIGHT-THICKNESS.
```

```
     CALL "AFPBTBL"   USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-TABLE-WIDTH
                       AFP-MAX-TABLE-DEPTH
                       ROTATEO
                       AFP-TOP-THICKNESS
                       AFP-BOTTOM-THICKNESS
                       AFP-LEFT-THICKNESS
                       AFP-RIGHT-THICKNESS
                    BY REFERENCE
                       AFP-TABLE-HANDLE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "AFPBTBL CONT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
*            Write the header rows.                           *
*-------------------------------------------------------------*
     PERFORM WRITE-HEADER-ROWS.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    CREATE THE HEADER FOR THE CONTINUATION PAGES.            *
*                                                             *
*-------------------------------------------------------------*

 CREATE-THE-CONT-HEADER.
*-------------------------------------------------------------*
* Include the page segment.                                   *
*-------------------------------------------------------------*
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE 23 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YABS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS CONT AFPIPSG" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

         MOVE "APQPSEG" TO AFP-PSEG-NAME.
       CALL "AFPIPSG" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-PSEG-NAME
                       TRU
                       FALS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "CONT AFPIPSG" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Draw a rule underneath the page segment.                    *
*-------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     CALL    "AFPSRTH" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-RULE-THICKNESS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "CONT AFPSRTH" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE 50 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YABS
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS CONT AFPPRUL" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

       MOVE 158 TO AFP-RULE-LENGTH.
     CALL "AFPPRUL"  USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       XDIRECTION
                       AFP-RULE-LENGTH
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

      MOVE "CONT AFPPRUL" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

*-------------------------------------------------------------*
* Leave space after the rule.                                 *
*-------------------------------------------------------------*
       MOVE 4 TO AFP-Y-COORDINATE.
     CALL    "AFPSPOS" USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PAGE-HANDLE
                       AFP-X-COORDINATE
                       XABS
                       AFP-Y-COORDINATE
                       YREL
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.

     MOVE "AFPSPOS CONT SPACE" TO AFP-ERRDATA.
     PERFORM CHKSUCC.
```

```
*-------------------------------------------------------------*
* Query the position and calculate the page header depth.     *
*-------------------------------------------------------------*
     CALL    "AFPQPOS" USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-PAGE-HANDLE
                     BY REFERENCE
                        AFP-X-COORDINATE
                        PAGE-HEADER-DEPTH
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    TERMINATE THE AFPAPI AND THE PROGRAM.                    *
*                                                             *
*-------------------------------------------------------------*

 END-PROCESSING.
     CALL    "AFPEDOC" USING
                        BY CONTENT
                           AFPAPI-HANDLE
                        BY REFERENCE
                           AFP-DOCUMENT-HANDLE
                           AFP-RET-CODE
                           AFP-SEVERITY-CODE.
         MOVE "AFPEDOC" TO AFP-ERRDATA.
         PERFORM CHKSUCC.

         CALL "AFPEND" USING
                        BY CONTENT
                           AFPAPI-HANDLE
                        BY REFERENCE
                           AFP-RET-CODE
                           AFP-SEVERITY-CODE.

         COPY APQPERF.
         COPY APQSTRL.
         COPY APQTRIM.

END PROGRAM APQSAMP2.
```

APQGETB

This source code, which is *not* shipped with AFP API, illustrates how to use output buffering and produce the sample document shown in Figure 1 on page 66. The sample code in APQGETB is the same as in APQSAMP, except that code has been changed or added to perform these functions related to output buffering:

- Open and close the output file.
- Request AFP API to buffer output on the AFPSOUT call.
- Call AFPGBUF repeatedly at the end of each page to retrieve output records for that page and write the records to the output file.
- Retrieve the last record at the end of the document and write the record to the output file.

Note: The changed and added code in APQGETB is shown in a box labeled "Buffered-Output Modification."

```
 IDENTIFICATION DIVISION.
*****************************************************************
*   COBOL PROGRAM -- AFPAPI APQGETB                             *
*                                                               *
* This program invokes the AFP API to produce a sample          *
* customer billing statement using output buffering.            *
* See "AFP API Programming Guide and Reference" for a picture   *
* of the print output produced by this program.                 *
*****************************************************************
 PROGRAM-ID. APQGETB.
 ENVIRONMENT DIVISION.

   CONFIGURATION SECTION.
    SOURCE-COMPUTER. IBM.
    OBJECT-COMPUTER. IBM.

   INPUT-OUTPUT SECTION.
    FILE-CONTROL.
       SELECT INPUT-DATA
           ASSIGN TO DATAFILE
           ORGANIZATION IS SEQUENTIAL
           FILE STATUS IS FILE-STATUS.
```

Buffered-Output Modification

```
      SELECT OUTPUT-DATA
          ASSIGN TO OUTFILE
          ORGANIZATION IS SEQUENTIAL
          FILE STATUS IS OUT-FILE-STATUS.
```

End of Buffered-Output Modification

```
*****************************************************************
*                                                               *
*                    DATA DIVISION                              *
*                                                               *
*****************************************************************
 DATA DIVISION.
   FILE SECTION.
    FD INPUT-DATA
     BLOCK CONTAINS 0 RECORDS
     RECORD CONTAINS 80 CHARACTERS
     LABEL RECORDS OMITTED
     RECORDING MODE F.
    01  INPUT-RECORD.
     03  POST-DATE-IN               PIC 9(4).
     03  TRANSACTION-DESCRIPTION    PIC X(40).
     03  TRANSACTION-AMOUNT-IN      PIC S9(7)V9(2).
```

Buffered-Output Modification

```
    FD OUTPUT-DATA
     BLOCK CONTAINS 0 RECORDS
     RECORDING MODE V
     RECORD IS VARYING DEPENDING ON AFPOUT-REC-LEN
     LABEL RECORDS STANDARD.
    01  OUTPUT-RECORD.
     03  FILLER                     OCCURS 9 TO 8201 TIMES,
                                    DEPENDING ON AFPOUT-REC-LEN,
                                    PIC X.
```

End of Buffered-Output Modification

```
   WORKING-STORAGE SECTION.

    01  FILE-STATUS                PIC 99.
```

Buffered-Output Modification

```
    01  OUT-FILE-STATUS            PIC 99.
    01  AFPOUT-REC-LEN             PIC 9(4) BINARY.
```

End of Buffered-Output Modification

```
    01  CUST-IN.
     03  CUST-NAME                  PIC X(25) VALUE SPACES.
     03  CUST-ST-ADDR               PIC X(30) VALUE SPACES.
     03  CUST-CITY-STATE            PIC X(35) VALUE SPACES.
     03  ACCOUNT-NUM-IN             PIC 9(16) VALUE ZERO.
     03  CUSTOMER-BALANCE-IN        PIC S9(7)V9(2) BINARY.

    01  TRANSACTION-PROCESSING-VARS.
     03  PAGE-HEADER-DEPTH          PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  PAGE-BODY                  PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  BOTTOM-MARGIN              PIC 9(5)V9(4) BINARY
                                    VALUE 20.0.
     03  TABLE-WHITE-SPACE          PIC 9(5)V9(4) BINARY
                                    VALUE 10.0.
     03  PARAGRAPH-WHITE-SPACE      PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  TABLE-DEPTH                PIC 9(5)V9(4) VALUE 0.0.
     03  END-TABLE-POSITION         PIC 9(5)V9(4) VALUE ZERO.
     03  NUM-CUSTOMER-PAGES         PIC 99 BINARY VALUE 1.
```

```
    01  CUST-OUT.
     03  ACCOUNT-NUM-OUT            PIC 9999B9999B9999B9999.
     03  OLD-BALANCE-OUT            PIC $$,$$$,$$9.99.
     03  MIN-AMOUNT-DUE-OUT         PIC $$$$,$$9.99.
     03  POST-DATE-OUT              PIC 99/99.
     03  TRANSACTION-DATE-OUT       PIC 99/99.
     03  TRANSACTION-AMOUNT-OUT     PIC $$,$$$,$$9.99CR.
     03  CUSTOMER-BALANCE-OUT       PIC $$,$$$,$$9.99CR.
     03  NUM-CUSTOMER-PAGES-OUT     PIC Z9.

    01  DUE-DATE.
     03  DUE-MONTH                  PIC X(3) VALUE "OCT".
     03  FILLER                     PIC X VALUE SPACE.
     03  DUE-DAY                    PIC X(3) VALUE "15,".
     03  DUE-YEAR                   PIC X(4) VALUE "1992".

    01  PROCESSING-SWITCHES.
     03  DATA-REMAINS-SWITCH        PIC X(3) VALUE "YES".
     03  NEW-CUSTOMER               PIC X(3) VALUE "NO ".
     03  MIN-AMOUNT-DUE-COMP        PIC 9(7)V99.

    01  EXCLAMATION                 PIC X VALUE X"4f".

    01  FONT-IDS.
         05  TIM10MED               PIC X(9).
         05  TIM12MED               PIC X(9).
         05  TIM12MEDITAL           PIC X(9).
         05  TIM12BOLD              PIC X(9).
    01  FIELD-IDS.
         05  FIELDH1                PIC 9(8) BINARY.
         05  FIELDH2                PIC 9(8) BINARY.
         05  FIELDH3                PIC 9(8) BINARY.
         05  FIELDT1                PIC 9(8) BINARY.
         05  FIELDT2                PIC 9(8) BINARY.
         05  FIELDT3                PIC 9(8) BINARY.
         05  FIELDS1                PIC 9(8) BINARY.
         05  FIELDS2                PIC 9(8) BINARY.
 01  ROW-IDS.
         05  ROW1                   PIC X(9).
         05  ROW2                   PIC X(9).
         05  ROW3                   PIC X(9).

     COPY APQCONST.
     COPY APQRCS.
     COPY APQVARS.

/-----------------------------------------------------------------*
*****************************************************************
*                                                               *
*   MAINLINE                                                    *
*                                                               *
*            This program produces a sample customer statement.*
*            The statement contains a logo stored in a page     *
*            segment, a paragraph enclosed in a box with        *
*            variable data, account summary information         *
*            which is highlighted in a shaded area, and         *
*            the account transactions contained in a variable   *
*            depth table.                                       *
*                                                               *
*            The mainline logic is as follows:                  *
*                                                               *
*            Initialize the API and define the fonts, fields,   *
*                 and rows.                                     *
*            Load the sample data for the first customer        *
*            Process a customer until no more customers to      *
*                 process.                                      *
*            End the API.                                       *
*****************************************************************
 PROCEDURE DIVISION.


 MAINLINE.

     OPEN INPUT INPUT-DATA.
     IF FILE-STATUS NOT = ZEROS
             DISPLAY "UNABLE TO OPEN INPUT FILE"
             DISPLAY "FILE STATUS" FILE-STATUS
             STOP RUN.
```

Buffered-Output Modification

```
     OPEN OUTPUT OUTPUT-DATA.
     IF OUT-FILE-STATUS NOT = ZEROS
             DISPLAY "UNABLE TO OPEN OUTPUT FILE"
             DISPLAY "FILE STATUS" OUT-FILE-STATUS
             STOP RUN.
```

End of Buffered-Output Modification

```
     PERFORM SETUP-AFPAPI.
     PERFORM READ-DATA.
     PERFORM PROCESS-A-CUSTOMER UNTIL DATA-REMAINS-SWITCH
                 = "NO ".
     PERFORM END-PROCESSING.

     CLOSE INPUT-DATA.
```

Buffered-Output Modification

```
     CLOSE OUTPUT-DATA.
*    DISPLAY "APQGETB COMPLETED".
```

End of Buffered-Output Modification

```
     STOP RUN.


/-----------------------------------------------------------------*
*-----------------------------------------------------------------*
*                                                                 *
*    SETUP-AFPAPI.                                                *
*        Initialize the AFP API.                                  *
*        Set the output characteristics.                          *
*        Begin a document.                                        *
*        Define the fonts.                                        *
*        Define the fields and rows of a table.                   *
*                                                                 *
*-----------------------------------------------------------------*


 SETUP-AFPAPI.
          MOVE FALS TO AFP-TRACE.
     PERFORM 200-AFPINIT.

*-----------------------------------------------------------------*
*                                                                 *
*    Set the output characteristics.                              *
*                                                                 *
*-----------------------------------------------------------------*
         MOVE 8205 TO AFP-OUTPUT-RECORD-SIZE.
```

Buffered-Output Modification

```
         MOVE BUFFERED TO AFP-OUTPUT-FILENAME.
         MOVE " " TO AFP-OUTPUT-FILETYPE.
         MOVE " " TO AFP-OUTPUT-FILEMODE.
```

End of Buffered-Output Modification

```
         MOVE TRU TO AFP-REPLACE.
     PERFORM 395-AFPSOUTC.

         MOVE MM TO AFP-UNIT-OF-MEASURE.
         MOVE 215 TO AFP-DOC-PAGE-WIDTH.
         MOVE 280 TO AFP-DOC-PAGE-DEPTH.
         MOVE ORIENTO TO AFP-PAGE-ORIENTATION.
     PERFORM 210-AFPBDOC.
     MOVE AFP-DOCUMENT-HANDLE TO AFP-CURRENT-HANDLE.
```

```
*-------------------------------------------------------------*
*                                                             *
*    Define the fonts.                                        *
*                                                             *
*-------------------------------------------------------------*
         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 10 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM10MED.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12MED.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ITALIC TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12MEDITAL.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE BOLD TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12BOLD.

/-------------------------------------------------------------*
*   THIS IS THE START OF THE FIELD AND ROW DEFINITIONS        *
*-------------------------------------------------------------*

         MOVE FOCENTER TO AFP-FORMAT-OPTION.
         MOVE 0 TO AFP-ALIGNMENT-POSITION.
         MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
         MOVE 0.0 TO AFP-LEFT-MARGIN.
         MOVE 0.0 TO AFP-RIGHT-MARGIN.
         MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
         MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
         MOVE SCREEN TO AFP-SHADING-PATTERN.
         MOVE 18 TO AFP-SHADING-INTENSITY.
         MOVE .5 TO AFP-TOP-THICKNESS.
         MOVE .5 TO AFP-BOTTOM-THICKNESS.
         MOVE .5 TO AFP-LEFT-THICKNESS.
         MOVE .5 TO AFP-RIGHT-THICKNESS.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDH1.

     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDH2.

     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDH3.

         MOVE 3 TO AFP-NUMBER-COLUMNS.
         MOVE 1 TO AFP-NUMBER-SUBROWS.
         MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
         MOVE FIELDH1 TO AFP-COLUMN-ARRANGE (1, 1).
         MOVE 25.0 TO AFP-COLUMN-WIDTH (1).
         MOVE FIELDH2 TO AFP-COLUMN-ARRANGE (1, 2).
         MOVE 70.0 TO AFP-COLUMN-WIDTH (2).
         MOVE FIELDH3 TO AFP-COLUMN-ARRANGE (1, 3).
         MOVE 30.0 TO AFP-COLUMN-WIDTH (3).
     PERFORM 361-AFPDROW.
       MOVE AFP-ROW-ID TO ROW1.

/-------------------------------------------------------------*
*  Define the transaction row                                 *
*-------------------------------------------------------------*
         MOVE FOCENTER TO AFP-FORMAT-OPTION.
         MOVE 0 TO AFP-ALIGNMENT-POSITION.
         MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
         MOVE 1.0 TO AFP-LEFT-MARGIN.
         MOVE 1.0 TO AFP-RIGHT-MARGIN.
         MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
         MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
         MOVE NOSHADE TO AFP-SHADING-PATTERN.
         MOVE 0 TO AFP-SHADING-INTENSITY.
         MOVE 0.5 TO AFP-TOP-THICKNESS.
         MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
         MOVE 0.5 TO AFP-LEFT-THICKNESS.
         MOVE 0.5 TO AFP-RIGHT-THICKNESS.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDT1.

     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDT2.

         MOVE 0.0 TO AFP-LEFT-MARGIN.
         MOVE 20 TO AFP-ALIGNMENT-POSITION.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDT3.

         MOVE 0.5 TO AFP-TOP-THICKNESS.
         MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
         MOVE 1 TO AFP-NUMBER-SUBROWS.
         MOVE 3 TO AFP-NUMBER-COLUMNS.
         MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
         MOVE FIELDT1 TO AFP-COLUMN-ARRANGE (1, 1).
         MOVE 25.0 TO AFP-COLUMN-WIDTH (1).
         MOVE FIELDT2 TO AFP-COLUMN-ARRANGE (1, 2).
         MOVE 70.0 TO AFP-COLUMN-WIDTH (2).
         MOVE FIELDT3 TO AFP-COLUMN-ARRANGE (1, 3).
         MOVE 30.0 TO AFP-COLUMN-WIDTH (3).
     PERFORM 361-AFPDROW.
       MOVE AFP-ROW-ID TO ROW2.

/-------------------------------------------------------------*
*  Define the summary row                                     *
*-------------------------------------------------------------*
         MOVE FOCENTER TO AFP-FORMAT-OPTION.
         MOVE 0 TO AFP-ALIGNMENT-POSITION.
         MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
         MOVE 1.0 TO AFP-LEFT-MARGIN.
         MOVE 1.0 TO AFP-RIGHT-MARGIN.
         MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
         MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
         MOVE SCREEN TO AFP-SHADING-PATTERN.
         MOVE 18 TO AFP-SHADING-INTENSITY.
         MOVE 0.5 TO AFP-TOP-THICKNESS.
         MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
         MOVE 0.5 TO AFP-LEFT-THICKNESS.
         MOVE 0.5 TO AFP-RIGHT-THICKNESS.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDS1.

         MOVE 0.0 TO AFP-LEFT-MARGIN.
         MOVE 20 TO AFP-ALIGNMENT-POSITION.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDS2.

         MOVE 0.0 TO AFP-TOP-THICKNESS.
         MOVE 0.0 TO AFP-BOTTOM-THICKNESS.
         MOVE 1 TO AFP-NUMBER-SUBROWS.
         MOVE 2 TO AFP-NUMBER-COLUMNS.
         MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
         MOVE FIELDS1 TO AFP-COLUMN-ARRANGE (1, 1).
         MOVE 95.0 TO AFP-COLUMN-WIDTH (1).
         MOVE FIELDS2 TO AFP-COLUMN-ARRANGE (1, 2).
         MOVE 30.0 TO AFP-COLUMN-WIDTH (2).
     PERFORM 361-AFPDROW.
       MOVE AFP-ROW-ID TO ROW3.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*      READ SAMPLE DATA                                       *
*                                                             *
*-------------------------------------------------------------*
 READ-DATA.
     READ INPUT-DATA AT END
          MOVE "NO" TO DATA-REMAINS-SWITCH
     END-READ.
     IF FILE-STATUS NOT = ZEROS AND FILE-STATUS NOT = 10
             DISPLAY "READ ERROR"
             DISPLAY "FILE STATUS" FILE-STATUS
             STOP RUN.
*-------------------------------------------------------------*
* If this is a new customer, read the customer address and    *
* account balance.                                            *
*-------------------------------------------------------------*
     IF POST-DATE-IN EQUAL ZEROS
       MOVE "YES" TO NEW-CUSTOMER
       STRING TRANSACTION-DESCRIPTION DELIMITED BY " "
          INTO ACCOUNT-NUM-IN ON OVERFLOW CONTINUE
       END-STRING

*-------------------------------------------------------------*
* Read the customer name                                      *
*-------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-DESCRIPTION TO CUST-NAME

*-------------------------------------------------------------*
* Read the customer street address.                           *
*-------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-DESCRIPTION TO CUST-ST-ADDR

*-------------------------------------------------------------*
* Read the customer city and state.                           *
*-------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-DESCRIPTION TO CUST-CITY-STATE

*-------------------------------------------------------------*
* Read the customer balance.                                  *
*-------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       MOVE TRANSACTION-AMOUNT-IN TO CUSTOMER-BALANCE-IN
*-------------------------------------------------------------*
* Read the first customer transaction                         *
*-------------------------------------------------------------*
       READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
       END-READ
       IF FILE-STATUS NOT = ZEROS
             DISPLAY "READ ERROR"
             DISPLAY "FILE STATUS" FILE-STATUS
             STOP RUN
       ELSE CONTINUE
       END-IF
     ELSE CONTINUE
     END-IF.
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE CUSTOMER.                                    *
*                                                             *
*            Begin a page                                     *
*            Write the page header                            *
*            Write the paragraph                              *
*            Process the customer transactions                *
*            Write the page footer                            *
*            End the page                                     *
*-------------------------------------------------------------*

 PROCESS-A-CUSTOMER.
     MOVE CUSTOMER-BALANCE-IN TO CUSTOMER-BALANCE-OUT.
*-------------------------------------------------------------*
* Initialize the number of transactions for this customer to 0 *
*-------------------------------------------------------------*
     MOVE 1 TO NUM-CUSTOMER-PAGES.

       MOVE AFP-DEFAULT TO AFP-PAGE-WIDTH.
       MOVE AFP-DEFAULT TO AFP-PAGE-DEPTH.
     PERFORM 220-AFPBPAGE.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

     PERFORM CREATE-THE-HEADER.
*-------------------------------------------------------------*
* Calculate the page body size as the page size less the page  *
* header and bottom margin.                                   *
*-------------------------------------------------------------*
     COMPUTE PAGE-BODY = AFP-DOC-PAGE-DEPTH - PAGE-HEADER-DEPTH -
          BOTTOM-MARGIN.

     PERFORM PROCESS-THE-PARAGRAPH.
*-------------------------------------------------------------*
* Calculate the remaining page body after the paragraph.      *
*-------------------------------------------------------------*
     COMPUTE PAGE-BODY = PAGE-BODY - AFP-PARAGRAPH-DEPTH.

     PERFORM PROCESS-TRANSACTIONS.

     PERFORM CREATE-THE-FOOTER.
```

Buffered-Output Modification

```
     PERFORM END-THE-PAGE.
```

End of Buffered-Output Modification

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    CREATE THE HEADER.                                       *
*                                                             *
*-------------------------------------------------------------*

 CREATE-THE-HEADER.
     PERFORM PROCESS-THE-AREA.
*-------------------------------------------------------------*
* Include the Page Segment                                    *
*-------------------------------------------------------------*
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE "APQPSEG" TO AFP-PSEG-NAME.
       MOVE TRU TO AFP-INLINE-OPTION.
       MOVE FALS TO AFP-REUSE-OPTION.
     PERFORM 440-AFPIPSEG.

     PERFORM PROCESS-THE-ADDRESS.

*-------------------------------------------------------------*
* Draw a rule underneath the address                          *
*-------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 73 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE XDIRECTION TO AFP-DIRECTION.
       MOVE 158 TO AFP-RULE-LENGTH.
     PERFORM 310-AFPPRULE.

*-------------------------------------------------------------*
* Leave space after the rule                                  *
*-------------------------------------------------------------*
       MOVE 4 TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

*-------------------------------------------------------------*
* Query the position and calculate the page header depth.     *
*-------------------------------------------------------------*
```

```
     PERFORM 275-AFPQPOS.
     MOVE AFP-Y-COORDINATE TO PAGE-HEADER-DEPTH.
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE AREA                                         *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-AREA.
       MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
       MOVE 50.0 TO AFP-AREA-WIDTH.
       MOVE 65.0 TO AFP-MAX-AREA-DEPTH.
       MOVE NOSHADE TO AFP-SHADING-PATTERN.
       MOVE 0 TO AFP-SHADING-INTENSITY.
     PERFORM 230-AFPCAREA.
       MOVE AFP-AREA-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
* Include the Page Overlay                                    *
*-------------------------------------------------------------*
       MOVE "O1APQL2" TO AFP-OVLY-NAME.
     PERFORM 236-AFPIPOVL.

*-------------------------------------------------------------*
* Write the account number                                    *
*-------------------------------------------------------------*
       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 7 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE ACCOUNT-NUM-IN TO ACCOUNT-NUM-OUT.
       MOVE 19 TO AFP-STRING-LENGTH.
       MOVE ACCOUNT-NUM-OUT TO AFP-CHARACTER-STRING.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the due date.                                         *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 12 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE DUE-DATE TO AFP-CHARACTER-STRING.
       MOVE 11 TO AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer balance.                                 *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 19 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       CALL "TRIM" USING CUSTOMER-BALANCE-OUT,
                         BY CONTENT LENGTH OF CUSTOMER-BALANCE-OUT,
                         BY REFERENCE AFP-CHARACTER-STRING,
                         AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer payment.                                 *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 24 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

         MULTIPLY .1 BY CUSTOMER-BALANCE-IN GIVING
           MIN-AMOUNT-DUE-COMP ROUNDED.
         MOVE MIN-AMOUNT-DUE-COMP TO MIN-AMOUNT-DUE-OUT.
       CALL "TRIM" USING MIN-AMOUNT-DUE-OUT,
                         BY CONTENT LENGTH OF MIN-AMOUNT-DUE-OUT,
                         BY REFERENCE AFP-CHARACTER-STRING,
                         AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

     PERFORM 470-AFPEAREA.

*-------------------------------------------------------------*
* Place the area on the page.                                 *
*-------------------------------------------------------------*
       MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
       MOVE 137 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE ORIENTO TO AFP-AREA-ROTATION.
     PERFORM 235-AFPPAREA.

*-------------------------------------------------------------*
* Destroy the area from AFP API storage.                      *
*-------------------------------------------------------------*
     PERFORM 237-AFPXAREA.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE ADDRESS.                                     *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-ADDRESS.
*-------------------------------------------------------------*
* Write the customer name.                                    *
*-------------------------------------------------------------*
       MOVE TIM12BOLD TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 56 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-NAME,
                       BY CONTENT LENGTH OF CUST-NAME,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer address.                                 *
*-------------------------------------------------------------*
       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 1 TO AFP-Y-COORDINATE.
       MOVE YLINES TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-ST-ADDR,
                       BY CONTENT LENGTH OF CUST-ST-ADDR,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
```

```
      MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

       MOVE 1 TO AFP-Y-COORDINATE.
       MOVE YLINES TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-CITY-STATE,
                    BY CONTENT LENGTH OF CUST-CITY-STATE,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    PROCESS THE PARAGRAPH.                                     *
*                                                               *
*---------------------------------------------------------------*

 PROCESS-THE-PARAGRAPH.
       MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE PARAGRAPH-WHITE-SPACE TO AFP-Y-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE 0.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 0 TO AFP-FIRST-LINE-INDENT.
       MOVE FOJUSTIFY TO AFP-FORMAT-OPTION.
       MOVE AFP-DEFAULT TO AFP-FIRST-LINE-OFFSET.
       MOVE 10.0 TO AFP-LEFT-MARGIN.
       MOVE 135.0 TO AFP-LINE-LENGTH.
       MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
       MOVE TRU TO AFP-PARAGRAPH-FRAME.
       MOVE 158.0 TO AFP-RT-RULE-OFFSET.
       MOVE 0.0 TO AFP-BOT-RULE-OFFSET.
       MOVE NOSHADE TO AFP-SHADING-PATTERN.
       MOVE 0 TO AFP-SHADING-INTENSITY.
     PERFORM 240-AFPBPARA.
       MOVE AFP-PARAGRAPH-HANDLE TO AFP-CURRENT-HANDLE.

       MOVE TIM12BOLD TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING "CONGRATULATIONS, " DELIMITED BY SIZE
         INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
       MOVE TRU TO AFP-CONCATENATE.
     PERFORM 320-AFPPTEXT.

       MOVE TIM12MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

     CALL "TRIM" USING CUST-NAME,
                    BY CONTENT LENGTH OF CUST-NAME,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING EXCLAMATION  DELIMITED BY SIZE
              "  Because of your excellent credit rating, you are
-    "now eligible for free credit insurance which"
          DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING " protects you in case your Primo card is ever lost
-       "or stolen.  "
          DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING "  Call NOW for more information" DELIMITED BY SIZE
             EXCLAMATION DELIMITED BY SIZE
         INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE TRU TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

     PERFORM 460-AFPEPARA.

*---------------------------------------------------------------*
* Calculate the amount of space taken up by the paragraph.      *
*---------------------------------------------------------------*
     COMPUTE AFP-PARAGRAPH-DEPTH = AFP-PARAGRAPH-DEPTH +
                                   PARAGRAPH-WHITE-SPACE.

     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    PROCESS TRANSACTIONS.                                      *
*                                                               *
*            Begin a table                                      *
*            Write the header rows                              *
*            Write a transaction row until no more data for     *
*                 this customer or no more data.                *
*            Write the summary row                              *
*            End the table                                      *
*            Compute the table depth.                           *
*---------------------------------------------------------------*

 PROCESS-TRANSACTIONS.

       MOVE "NO " TO NEW-CUSTOMER.

*---------------------------------------------------------------*
* Start the table whose maximum depth is the remaining page     *
* body space after the white space preceeding the table.        *
*---------------------------------------------------------------*
       MOVE 45 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE TABLE-WHITE-SPACE TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       COMPUTE AFP-MAX-TABLE-DEPTH = PAGE-BODY -
                                     TABLE-WHITE-SPACE.
       MOVE 125.0 TO AFP-TABLE-WIDTH.
       MOVE ORIENTO TO AFP-TABLE-ROTATION.
       MOVE 1.0 TO AFP-TOP-THICKNESS.
       MOVE .5 TO AFP-BOTTOM-THICKNESS.
       MOVE .5 TO AFP-LEFT-THICKNESS.
       MOVE .5 TO AFP-RIGHT-THICKNESS.
     PERFORM 362-AFPBTABL.
     MOVE AFP-TABLE-HANDLE TO AFP-CURRENT-HANDLE.

*---------------------------------------------------------------*
* Write the table header rows.                                  *
*---------------------------------------------------------------*
     PERFORM WRITE-HEADER-ROWS.

*---------------------------------------------------------------*
* Write the transaction rows for this customer.                 *
*---------------------------------------------------------------*
```

```
     PERFORM WRITE-TRANSACTIONS UNTIL
       NEW-CUSTOMER = "YES" OR DATA-REMAINS-SWITCH = "NO".

*-------------------------------------------------------------*
* Write the table summary rows.                               *
*-------------------------------------------------------------*
     PERFORM WRITE-SUMMARY-ROW.

*-------------------------------------------------------------*
* If the end of the table was reached, end this page, start   *
* a new page, and write the summary row that didn't fit.      *
*-------------------------------------------------------------*
     IF AFP-SEVERITY-CODE = WARNING
               PERFORM END-CUST-PAGE
               PERFORM WRITE-SUMMARY-ROW.

*-------------------------------------------------------------*
* End the table.                                              *
*-------------------------------------------------------------*
     PERFORM 369-AFPETABL.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
* Calculate the amount of space taken up by the table.        *
*-------------------------------------------------------------*
     COMPUTE AFP-TABLE-DEPTH = AFP-TABLE-DEPTH +
                               TABLE-WHITE-SPACE.



/------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-HEADER-ROWS.                                       *
*                                                             *
*            Write the header row for the table.              *
*-------------------------------------------------------------*
 WRITE-HEADER-ROWS.
       MOVE ROW1 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.

*-------------------------------------------------------------*
* Write the first field in column 1.                          *
*-------------------------------------------------------------*
       MOVE FIELDH1 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.
       MOVE TIM12MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.


       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Date" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the second field in column 2.                         *
*-------------------------------------------------------------*
       MOVE FIELDH2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Transaction Description" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.


     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the third field in column 3.                          *
*-------------------------------------------------------------*
       MOVE FIELDH3 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Amount" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.
/------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-TRANSACTIONS.                                      *
*                                                             *
*            Write a transaction row.                         *
*            Read another input data record.                  *
*-------------------------------------------------------------*

 WRITE-TRANSACTIONS.
     PERFORM WRITE-TRANSACTION-ROW.
*-------------------------------------------------------------*
*            If the end of the table was reached,             *
*            end this page, start a new page, and             *
*            write the transaction row that didn't fit.       *
*-------------------------------------------------------------*
     IF AFP-SEVERITY-CODE = WARNING
               PERFORM END-CUST-PAGE
               PERFORM WRITE-TRANSACTION-ROW.

     PERFORM READ-DATA.

/------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-TRANSACTION-ROW.                                   *
*                                                             *
*            Begin a row.                                     *
*            Write the post date to the first field in the table*
*            Write the transaction description to the second  *
*                 field.                                      *
*            Write the transaction amount to the third field. *
*            End the row.                                     *
*-------------------------------------------------------------*
 WRITE-TRANSACTION-ROW.

       MOVE ROW2 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.

*-------------------------------------------------------------*
* Write the transaction date in column 1.                     *
*-------------------------------------------------------------*
       MOVE FIELDT1 TO AFP-FIELD-ID
     PERFORM 364-AFPBFLD

       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE POST-DATE-IN TO POST-DATE-OUT.
     CALL "TRIM" USING POST-DATE-OUT,
                    BY CONTENT LENGTH OF POST-DATE-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the transaction description in column 2.              *
*-------------------------------------------------------------*
       MOVE FIELDT2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING TRANSACTION-DESCRIPTION DELIMITED BY SIZE
           INTO AFP-CHARACTER-STRING.
```

```
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*---------------------------------------------------------------*
* Write the transaction amount in column 3.                     *
*---------------------------------------------------------------*
       MOVE FIELDT3 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE TRANSACTION-AMOUNT-IN TO TRANSACTION-AMOUNT-OUT.
     CALL "TRIM" USING TRANSACTION-AMOUNT-OUT,
                    BY CONTENT LENGTH OF TRANSACTION-AMOUNT-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CHAR TO AFP-ALIGNMENT-OPTION.
       MOVE "." TO AFP-ALIGNMENT-CHAR.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.

/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    WRITE-SUMMARY-ROW.                                         *
*                                                               *
*            Write the customer summary row.                    *
*---------------------------------------------------------------*
 WRITE-SUMMARY-ROW.

       MOVE ROW3 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.

       MOVE FIELDS1 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE TIM12MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE "Total Amount" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

       MOVE FIELDS2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

     CALL "TRIM" USING CUSTOMER-BALANCE-OUT,
                    BY CONTENT LENGTH OF CUSTOMER-BALANCE-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CHAR TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.

/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    CREATE-THE-FOOTER.                                         *
*                                                               *
*            Write the page footer.                             *
*---------------------------------------------------------------*
 CREATE-THE-FOOTER.
       MOVE 108 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 270 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING "Page " DELIMITED BY SIZE INTO AFP-CHARACTER-STRING
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

     MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.

       MOVE NUM-CUSTOMER-PAGES TO NUM-CUSTOMER-PAGES-OUT.
     CALL "TRIM" USING NUM-CUSTOMER-PAGES-OUT,
                       BY CONTENT LENGTH OF
                          NUM-CUSTOMER-PAGES-OUT,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

     MOVE L-FT TO AFP-ALIGNMENT-OPTION.
     MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.
/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    END-CUST-PAGE.                                             *
*                                                               *
*            End the table.                                     *
*            Write the page footer.                             *
*            End the page.                                      *
*            Start a new page.                                  *
*            Begin a table                                      *
*            Write the header rows                              *
*---------------------------------------------------------------*
 END-CUST-PAGE.
     PERFORM 369-AFPETABL.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
*****************************************************************
*            Write the footer.                                  *
*****************************************************************
     PERFORM CREATE-THE-FOOTER.


 Buffered-Output Modification

     PERFORM END-THE-PAGE.

 End of Buffered-Output Modification

*****************************************************************
*            Start a new page.                                  *
*****************************************************************
     ADD 1 TO NUM-CUSTOMER-PAGES.
       MOVE AFP-DEFAULT TO AFP-PAGE-WIDTH.
       MOVE AFP-DEFAULT TO AFP-PAGE-DEPTH.
     PERFORM 220-AFPBPAGE.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

     PERFORM CREATE-THE-CONT-HEADER.
*---------------------------------------------------------------*
* Calculate the page body space as the page size less the       *
* continuation page header size and bottom margin.              *
*---------------------------------------------------------------*
     COMPUTE PAGE-BODY = AFP-DOC-PAGE-DEPTH - PAGE-HEADER-DEPTH -
          BOTTOM-MARGIN.

*---------------------------------------------------------------*
*            Begin a table                                      *
*---------------------------------------------------------------*
       MOVE 45 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE TABLE-WHITE-SPACE TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       COMPUTE AFP-MAX-TABLE-DEPTH = PAGE-BODY -
```

```
                                    TABLE-WHITE-SPACE.
       MOVE 125.0 TO AFP-TABLE-WIDTH.
       MOVE ORIENTO TO AFP-TABLE-ROTATION.
       MOVE 1.0 TO AFP-TOP-THICKNESS.
       MOVE .5 TO AFP-BOTTOM-THICKNESS.
       MOVE .5 TO AFP-LEFT-THICKNESS.
       MOVE .5 TO AFP-RIGHT-THICKNESS.
     PERFORM 362-AFPBTABL.
     MOVE AFP-TABLE-HANDLE TO AFP-CURRENT-HANDLE.

*-----------------------------------------------------------------*
*            Write the header rows                                *
*-----------------------------------------------------------------*
     PERFORM WRITE-HEADER-ROWS.

/-----------------------------------------------------------------*
*-----------------------------------------------------------------*
*                                                                 *
*    CREATE THE HEADER FOR THE CONTINUATION PAGES                 *
*                                                                 *
*-----------------------------------------------------------------*

 CREATE-THE-CONT-HEADER.
*-----------------------------------------------------------------*
* Include the page segment                                       *
*-----------------------------------------------------------------*
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE "APQPSEG" TO AFP-PSEG-NAME.
       MOVE TRU TO AFP-INLINE-OPTION.
       MOVE FALS TO AFP-REUSE-OPTION.
     PERFORM 440-AFPIPSEG.

*-----------------------------------------------------------------*
* Draw a rule underneath the page segment                        *
*-----------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 50 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE XDIRECTION TO AFP-DIRECTION.
       MOVE 158 TO AFP-RULE-LENGTH.
     PERFORM 310-AFPPRULE.

*-----------------------------------------------------------------*
* Leave space after the rule                                     *
*-----------------------------------------------------------------*
       MOVE 4 TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

*-----------------------------------------------------------------*
* Query the position and calculate the page header depth.        *
*-----------------------------------------------------------------*
     PERFORM 275-AFPQPOS.
     MOVE AFP-Y-COORDINATE TO PAGE-HEADER-DEPTH.
```

Buffered-Output Modification

```
/-----------------------------------------------------------------*
*-----------------------------------------------------------------*
*                                                                 *
*    END THE PAGE AND RETRIEVE THE MO:DCA                         *
*                                                                 *
*-----------------------------------------------------------------*
 END-THE-PAGE.
     PERFORM 480-AFPEPAGE.
     PERFORM GET-A-BUFFER WITH TEST AFTER
           UNTIL AFP-MORE-RECORDS EQUAL FALS.

/-----------------------------------------------------------------*
*-----------------------------------------------------------------*
*                                                                 *
*    GET A MO:DCA STRUCTURED FIELD AND WRITE IT TO                *
*    THE OUTPUT FILE.                                             *
*                                                                 *
*-----------------------------------------------------------------*
 GET-A-BUFFER.
     PERFORM 396-AFPGBUF.
*    DISPLAY "BUFFER LENGTH=" AFP-BUFFER-LENGTH.
*    DISPLAY "MORE RECORDS=" AFP-MORE-RECORDS.
*    DISPLAY "BUFFER=" AFP-BUFFER.
     MOVE AFP-BUFFER-LENGTH TO AFPOUT-REC-LEN.
     WRITE OUTPUT-RECORD FROM AFP-BUFFER END-WRITE.
```

End of Buffered-Output Modification

```
/-----------------------------------------------------------------*
*-----------------------------------------------------------------*
*                                                                 *
*    TERMINATE THE AFPAPI AND THE PROGRAM                         *
*                                                                 *
*-----------------------------------------------------------------*

 END-PROCESSING.
     PERFORM 490-AFPEDOC.
```

Buffered-Output Modification

```
*-----------------------------------------------------------------*
* Write the last MO:DCA structured field to the output file.     *
*-----------------------------------------------------------------*
     MOVE AFP-BUFFER-LENGTH TO AFPOUT-REC-LEN.
     WRITE OUTPUT-RECORD FROM AFP-BUFFER END-WRITE.
```

End of Buffered-Output Modification

```
     PERFORM 500-AFPEND.

     COPY APQPERF.
     COPY APQSTRL.
     COPY APQTRIM.

 END PROGRAM APQGETB.
```

Chapter 4. COBOL Sample Code for CICS/ESA

This chapter contains two sample COBOL programs that create AFP output to produce the sample document shown in Figure 2 on page 104.

These sample programs can be run in a CICS/ESA environment. See Chapter 3, "COBOL Sample Code" on page 65 for the sample COBOL programs for a non-CICS/ESA environment.

The two sample COBOL programs shipped with AFP API are:

- APQCISMP, which writes the AFP output to a CICS/ESA temporary storage queue.
- APQCISMB, which uses the buffered-output function. AFP API returns the AFP output to the sample program; the sample program then writes the AFP output to a CICS/ESA temporary storage queue.

The sample code contains BY CONTENT and BY REFERENCE calls that VS COBOL II processes but that the earlier version of OS COBOL does not recognize.

The sample code is printed in 2-column format throughout this chapter.

Notes:

1. The sample output prints two horizontal rules. One of the horizontal rules was drawn by moving up the page from the current position. The code illustrates how to position and draw a rule higher on the page than the current position. This results in the double rule under the address on the sample document.
2. The code that is specific to a CICS/ESA environment is shown in a box labeled "CICS/ESA Modification."

Sample Document

PRIMO

ACCOUNT NUMBER	9999 8888 7777 6666
Payment Due Date	October 15,1992
New Balance	$3,572.15
Minimum Payment Due	$357.22
Enter Amount Enclosed	
$	

Make Check Payable to *The Primo Card.*
Please return this portion with your payment.

SUSAN B. AMES
98765 N. FRONTAGE ROAD
TIN CUP, COLORADO 80000

CONGRATULATIONS, SUSAN B. AMES! Because of your excellent credit rating, you are now eligible for free credit insurance which protects you in case your Primo card is ever lost or stolen. Call NOW for more information!

Date	Transaction Description	Amount
08/20	CNTRL RSRV - Lodging Winter Park CO	$173.12
Total Amount		$3,572.15

Page 1

Figure 2. Sample Document for CICS/ESA Sample Code

APQCISMP

```
 IDENTIFICATION DIVISION.
*****************************************************************
*   COBOL PROGRAM -- AFPAPI APQCISMP                            *
*                                                               *
* This program invokes the AFP API to produce a sample          *
* customer billing statement.  See the "AFP API Programming     *
* Guide and Reference" for a picture of the print output        *
* produced by this program.                                     *
*****************************************************************
 PROGRAM-ID. APQCISMP.
 ENVIRONMENT DIVISION.

   CONFIGURATION SECTION.
    SOURCE-COMPUTER. IBM.
    OBJECT-COMPUTER. IBM.

   INPUT-OUTPUT SECTION.
    FILE-CONTROL.
*      SELECT INPUT-DATA
*          ASSIGN TO DATAFILE
*          ORGANIZATION IS SEQUENTIAL
*          FILE STATUS IS FILE-STATUS.
*
*****************************************************************
*                                                               *
*                    DATA DIVISION                              *
*                                                               *
*****************************************************************
 DATA DIVISION.
   FILE SECTION.
*   FD INPUT-DATA
*    BLOCK CONTAINS 0 RECORDS
*    RECORD CONTAINS 80 CHARACTERS
*    LABEL RECORDS OMITTED
*    RECORDING MODE F.
*   01  INPUT-RECORD.
*    03  POST-DATE-IN               PIC 9(4).
*    03  TRANSACTION-DESCRIPTION    PIC X(40).
*    03  TRANSACTION-AMOUNT-IN      PIC S9(7)V9(2).
```

CICS/ESA Modification

```
   WORKING-STORAGE SECTION.
    01 MESSAGES.
     03 MSG1                        PIC X(15)
                        VALUE "APQSAMP STARTED".
     03 MSG2                        PIC X(17)
                        VALUE "APQSAMP COMPLETED".
     03 MSG3                        PIC X(10)
                        VALUE "AFPINIT OK".
     03 MSG4                        PIC X(6)
                        VALUE "FAILED".
     03 MSG5                        PIC X(3)
                        VALUE "RC:".
     03 MSG6                        PIC X(5)
                        VALUE "SEVC:".
     03 MSG7                        PIC X(7)
                        VALUE "HANDLE:".
     03 MSG8                        PIC X(4)
                        VALUE "  OK".
```

End of CICS/ESA Modification

```
    01  INPUT-RECORD.
     03  POST-DATE-IN               PIC 9(4).
     03  TRANSACTION-DESCRIPTION    PIC X(40).
     03  TRANSACTION-AMOUNT-IN      PIC S9(7)V9(2).
*
    01  FILE-STATUS                    PIC 99.
    01  CUST-IN.
     03  CUST-NAME                  PIC X(25) VALUE SPACES.
     03  CUST-ST-ADDR               PIC X(30) VALUE SPACES.
     03  CUST-CITY-STATE            PIC X(35) VALUE SPACES.
     03  ACCOUNT-NUM-IN             PIC 9(16) VALUE ZERO.
     03  CUSTOMER-BALANCE-IN        PIC S9(7)V9(2) BINARY.

    01  TRANSACTION-PROCESSING-VARS.
     03  PAGE-HEADER-DEPTH          PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  PAGE-BODY                  PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  BOTTOM-MARGIN              PIC 9(5)V9(4) BINARY
                                    VALUE 20.0.
     03  TABLE-WHITE-SPACE          PIC 9(5)V9(4) BINARY
                                    VALUE 10.0.
     03  PARAGRAPH-WHITE-SPACE      PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  TABLE-DEPTH                PIC 9(5)V9(4) VALUE 0.0.
     03  END-TABLE-POSITION         PIC 9(5)V9(4) VALUE ZERO.
     03  NUM-CUSTOMER-PAGES         PIC 99 BINARY VALUE 1.

    01  CUST-OUT.
     03  ACCOUNT-NUM-OUT            PIC 9999B9999B9999B9999.
     03  OLD-BALANCE-OUT            PIC $$,$$$,$$9.99.
     03  MIN-AMOUNT-DUE-OUT         PIC $$$$,$$9.99.
     03  POST-DATE-OUT              PIC 99/99.
     03  TRANSACTION-DATE-OUT       PIC 99/99.
     03  TRANSACTION-AMOUNT-OUT     PIC $$,$$$,$$9.99CR.
     03  CUSTOMER-BALANCE-OUT       PIC $$,$$$,$$9.99CR.
     03  NUM-CUSTOMER-PAGES-OUT     PIC Z9.

    01  DUE-DATE.
     03  DUE-MONTH                  PIC X(3) VALUE "OCT".
     03  FILLER                     PIC X VALUE SPACE.
     03  DUE-DAY                    PIC X(3) VALUE "15,".
     03  DUE-YEAR                   PIC X(4) VALUE "1992".

    01  PROCESSING-SWITCHES.
     03  DATA-REMAINS-SWITCH        PIC X(3) VALUE "YES".
     03  NEW-CUSTOMER               PIC X(3) VALUE "NO ".
     03  MIN-AMOUNT-DUE-COMP        PIC 9(7)V99.

    01  EXCLAMATION                 PIC X VALUE X"4f".

    01  FONT-IDS.
         05  TIM10MED               PIC X(9).
         05  TIM12MED               PIC X(9).
         05  TIM12MEDITAL           PIC X(9).
         05  TIM12BOLD              PIC X(9).
    01  FIELD-IDS.
         05  FIELDH1                PIC 9(8) BINARY.
         05  FIELDH2                PIC 9(8) BINARY.
         05  FIELDH3                PIC 9(8) BINARY.
         05  FIELDT1                PIC 9(8) BINARY.
         05  FIELDT2                PIC 9(8) BINARY.
         05  FIELDT3                PIC 9(8) BINARY.
         05  FIELDS1                PIC 9(8) BINARY.
         05  FIELDS2                PIC 9(8) BINARY.
01  ROW-IDS.
         05  ROW1                   PIC X(9).
         05  ROW2                   PIC X(9).
         05  ROW3                   PIC X(9).

    COPY APQCONST.
    COPY APQRCS.
    COPY APQVARS.
```

```
/-------------------------------------------------------------*
*************************************************************
*                                                           *
*   MAINLINE                                                *
*                                                           *
*            This program produces a sample customer statement.*
*            The statement contains a logo stored in a page   *
*            segment, a paragraph enclosed in a box with      *
*            variable data, account summary information       *
*            which is highlighted in a shaded area, and       *
*            the account transactions contained in a variable *
*            depth table.                                     *
*                                                           *
*            The mainline logic is as follows:                *
*                                                           *
*            Initialize the API and define the fonts, fields, *
*                 and rows.                                   *
*            Load the sample data for the first customer      *
*            Process a customer until no more customers to    *
*                 process.                                    *
*            End the API.                                     *
*************************************************************
 PROCEDURE DIVISION.


 MAINLINE.

*
*    OPEN INPUT INPUT-DATA.
*    IF FILE-STATUS NOT = ZEROS
*            DISPLAY "UNABLE TO OPEN INPUT FILE"
*            DISPLAY "FILE STATUS" FILE-STATUS
*            STOP RUN.


┌──────────────────── CICS/ESA Modification ────────────────────┐

     EXEC CICS WRITEQ TD QUEUE("CSSL") FROM(MSG1) END-EXEC.

└─────────────── End of CICS/ESA Modification ─────────────────┘

     PERFORM SETUP-AFPAPI.
     PERFORM READ-DATA.
*    PERFORM PROCESS-A-CUSTOMER UNTIL DATA-REMAINS-SWITCH
*                = "NO ".
     PERFORM PROCESS-A-CUSTOMER.
     PERFORM END-PROCESSING.

*    CLOSE INPUT-DATA.


┌──────────────────── CICS/ESA Modification ────────────────────┐

     EXEC CICS WRITEQ TD QUEUE("CSSL") FROM(MSG2) END-EXEC.
     EXEC CICS SEND CONTROL FREEKB ERASE END-EXEC.

└─────────────── End of CICS/ESA Modification ─────────────────┘

     STOP RUN.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                           *
*    SETUP-AFPAPI.                                          *
*        Initialize the AFP API.                            *
*        Set the output characteristics.                    *
*        Begin a document.                                  *
*        Define the fonts.                                  *
*        Define the fields and rows of a table.             *
*                                                           *
*-------------------------------------------------------------*


 SETUP-AFPAPI.
         MOVE FALS TO AFP-TRACE.
     PERFORM 200-AFPINIT.

*-------------------------------------------------------------*
*                                                           *
*    Set the output characteristics.                        *
*                                                           *
*-------------------------------------------------------------*
         MOVE 8205 TO AFP-OUTPUT-RECORD-SIZE.
         MOVE "APQSAMP" TO AFP-OUTPUT-FILENAME.
         MOVE "LISTAFP" TO AFP-OUTPUT-FILETYPE.
         MOVE "A1" TO AFP-OUTPUT-FILEMODE.
         MOVE TRU TO AFP-REPLACE.
     PERFORM 395-AFPSOUTC.

         MOVE MM TO AFP-UNIT-OF-MEASURE.
         MOVE 215 TO AFP-DOC-PAGE-WIDTH.
         MOVE 280 TO AFP-DOC-PAGE-DEPTH.
         MOVE ORIENTO TO AFP-PAGE-ORIENTATION.
     PERFORM 210-AFPBDOC.
     MOVE AFP-DOCUMENT-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
*                                                           *
*    Define the fonts.                                      *
*                                                           *
*-------------------------------------------------------------*
         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 10 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM10MED.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12MED.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ITALIC TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12MEDITAL.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE BOLD TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12BOLD.
```

```
/-------------------------------------------------------------*
*   THIS IS THE START OF THE FIELD AND ROW DEFINITIONS        *
*-------------------------------------------------------------*

        MOVE FOCENTER TO AFP-FORMAT-OPTION.
        MOVE 0 TO AFP-ALIGNMENT-POSITION.
        MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
        MOVE 0.0 TO AFP-LEFT-MARGIN.
        MOVE 0.0 TO AFP-RIGHT-MARGIN.
        MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
        MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
        MOVE SCREEN TO AFP-SHADING-PATTERN.
        MOVE 18 TO AFP-SHADING-INTENSITY.
        MOVE .5 TO AFP-TOP-THICKNESS.
        MOVE .5 TO AFP-BOTTOM-THICKNESS.
        MOVE .5 TO AFP-LEFT-THICKNESS.
        MOVE .5 TO AFP-RIGHT-THICKNESS.
    PERFORM 360-AFPDFLD.
      MOVE AFP-FIELD-ID TO FIELDH1.

    PERFORM 360-AFPDFLD.
      MOVE AFP-FIELD-ID TO FIELDH2.

    PERFORM 360-AFPDFLD.
      MOVE AFP-FIELD-ID TO FIELDH3.

        MOVE 3 TO AFP-NUMBER-COLUMNS.
        MOVE 1 TO AFP-NUMBER-SUBROWS.
        MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
        MOVE FIELDH1 TO AFP-COLUMN-ARRANGE (1, 1).
        MOVE 25.0 TO AFP-COLUMN-WIDTH (1).
        MOVE FIELDH2 TO AFP-COLUMN-ARRANGE (1, 2).
        MOVE 70.0 TO AFP-COLUMN-WIDTH (2).
        MOVE FIELDH3 TO AFP-COLUMN-ARRANGE (1, 3).
        MOVE 30.0 TO AFP-COLUMN-WIDTH (3).
    PERFORM 361-AFPDROW.
      MOVE AFP-ROW-ID TO ROW1.

/-------------------------------------------------------------*
*  Define the transaction row                                 *
*-------------------------------------------------------------*
        MOVE FOCENTER TO AFP-FORMAT-OPTION.
        MOVE 0 TO AFP-ALIGNMENT-POSITION.
        MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
        MOVE 1.0 TO AFP-LEFT-MARGIN.
        MOVE 1.0 TO AFP-RIGHT-MARGIN.
        MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
        MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
        MOVE NOSHADE TO AFP-SHADING-PATTERN.
        MOVE 0 TO AFP-SHADING-INTENSITY.
        MOVE 0.5 TO AFP-TOP-THICKNESS.
        MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
        MOVE 0.5 TO AFP-LEFT-THICKNESS.
        MOVE 0.5 TO AFP-RIGHT-THICKNESS.
    PERFORM 360-AFPDFLD.
      MOVE AFP-FIELD-ID TO FIELDT1.

    PERFORM 360-AFPDFLD.
      MOVE AFP-FIELD-ID TO FIELDT2.

        MOVE 0.0 TO AFP-LEFT-MARGIN.
        MOVE 20 TO AFP-ALIGNMENT-POSITION.
    PERFORM 360-AFPDFLD.
      MOVE AFP-FIELD-ID TO FIELDT3.

        MOVE 0.5 TO AFP-TOP-THICKNESS.
        MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
        MOVE 1 TO AFP-NUMBER-SUBROWS.
        MOVE 3 TO AFP-NUMBER-COLUMNS.
        MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
        MOVE FIELDT1 TO AFP-COLUMN-ARRANGE (1, 1).
        MOVE 25.0 TO AFP-COLUMN-WIDTH (1).
        MOVE FIELDT2 TO AFP-COLUMN-ARRANGE (1, 2).
        MOVE 70.0 TO AFP-COLUMN-WIDTH (2).
        MOVE FIELDT3 TO AFP-COLUMN-ARRANGE (1, 3).
        MOVE 30.0 TO AFP-COLUMN-WIDTH (3).
    PERFORM 361-AFPDROW.
      MOVE AFP-ROW-ID TO ROW2.

/-------------------------------------------------------------*
*  Define the summary row                                     *
*-------------------------------------------------------------*
        MOVE FOCENTER TO AFP-FORMAT-OPTION.
        MOVE 0 TO AFP-ALIGNMENT-POSITION.
        MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
        MOVE 1.0 TO AFP-LEFT-MARGIN.
        MOVE 1.0 TO AFP-RIGHT-MARGIN.
        MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
        MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
        MOVE SCREEN TO AFP-SHADING-PATTERN.
        MOVE 18 TO AFP-SHADING-INTENSITY.
        MOVE 0.5 TO AFP-TOP-THICKNESS.
        MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
        MOVE 0.5 TO AFP-LEFT-THICKNESS.
        MOVE 0.5 TO AFP-RIGHT-THICKNESS.
    PERFORM 360-AFPDFLD.
      MOVE AFP-FIELD-ID TO FIELDS1.

        MOVE 0.0 TO AFP-LEFT-MARGIN.
        MOVE 20 TO AFP-ALIGNMENT-POSITION.
    PERFORM 360-AFPDFLD.
      MOVE AFP-FIELD-ID TO FIELDS2.

        MOVE 0.0 TO AFP-TOP-THICKNESS.
        MOVE 0.0 TO AFP-BOTTOM-THICKNESS.
        MOVE 1 TO AFP-NUMBER-SUBROWS.
        MOVE 2 TO AFP-NUMBER-COLUMNS.
        MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
        MOVE FIELDS1 TO AFP-COLUMN-ARRANGE (1, 1).
        MOVE 95.0 TO AFP-COLUMN-WIDTH (1).
        MOVE FIELDS2 TO AFP-COLUMN-ARRANGE (1, 2).
        MOVE 30.0 TO AFP-COLUMN-WIDTH (2).
    PERFORM 361-AFPDROW.
      MOVE AFP-ROW-ID TO ROW3.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*      READ SAMPLE DATA                                       *
*                                                             *
*-------------------------------------------------------------*
 READ-DATA.
*    READ INPUT-DATA AT END
*         MOVE "NO" TO DATA-REMAINS-SWITCH
*    END-READ.
     MOVE 0 TO POST-DATE-IN.
     MOVE "9999888877776666" TO TRANSACTION-DESCRIPTION.
     MOVE 0 TO TRANSACTION-AMOUNT-IN.
*    IF FILE-STATUS NOT = ZEROS AND FILE-STATUS NOT = 10
*            DISPLAY "READ ERROR"
*            DISPLAY "FILE STATUS" FILE-STATUS
*            STOP RUN.
*-------------------------------------------------------------*
* If this is a new customer, read the customer address and    *
* account balance.                                            *
*-------------------------------------------------------------*
     IF POST-DATE-IN EQUAL ZEROS
       MOVE "YES" TO NEW-CUSTOMER
       STRING TRANSACTION-DESCRIPTION DELIMITED BY " "
          INTO ACCOUNT-NUM-IN ON OVERFLOW CONTINUE
       END-STRING

*-------------------------------------------------------------*
* Read the customer name                                      *
*-------------------------------------------------------------*
*      READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
*      END-READ
     MOVE 0 TO POST-DATE-IN.
     MOVE "SUSAN B. AMES" TO TRANSACTION-DESCRIPTION.
     MOVE 0 TO TRANSACTION-AMOUNT-IN.
       MOVE TRANSACTION-DESCRIPTION TO CUST-NAME
```

```
*-------------------------------------------------------------*
* Read the customer street address.                           *
*-------------------------------------------------------------*
*      READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
*      END-READ
     MOVE 0 TO POST-DATE-IN.
     MOVE "98765, N. FRONTAGE ROAD" TO TRANSACTION-DESCRIPTION.
     MOVE 0 TO TRANSACTION-AMOUNT-IN.
       MOVE TRANSACTION-DESCRIPTION TO CUST-ST-ADDR

*-------------------------------------------------------------*
* Read the customer city and state.                           *
*-------------------------------------------------------------*
*      READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
*      END-READ
     MOVE 0 TO POST-DATE-IN.
     MOVE "TIN CUP, COLORADO 80000" TO TRANSACTION-DESCRIPTION.
     MOVE 0 TO TRANSACTION-AMOUNT-IN.
       MOVE TRANSACTION-DESCRIPTION TO CUST-CITY-STATE

*-------------------------------------------------------------*
* Read the customer balance.                                  *
*-------------------------------------------------------------*
*      READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
*      END-READ
     MOVE 0 TO POST-DATE-IN.
     MOVE "TOTAL" TO TRANSACTION-DESCRIPTION.
     MOVE 3572.15 TO TRANSACTION-AMOUNT-IN.
       MOVE TRANSACTION-AMOUNT-IN TO CUSTOMER-BALANCE-IN
*-------------------------------------------------------------*
* Read the first customer transaction                         *
*-------------------------------------------------------------*
*      READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
*      END-READ
     MOVE 0820 TO POST-DATE-IN.
     MOVE "CNTRL RSRV - Lodging Winter park CO"
             TO TRANSACTION-DESCRIPTION.
     MOVE 173.12 TO TRANSACTION-AMOUNT-IN.
*      IF FILE-STATUS NOT = ZEROS
*            DISPLAY "READ ERROR"
*            DISPLAY "FILE STATUS" FILE-STATUS
*            STOP RUN
*      ELSE CONTINUE
*      END-IF
*    ELSE CONTINUE
*    END-IF.
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE CUSTOMER.                                    *
*                                                             *
*            Begin a page                                     *
*            Write the page header                            *
*            Write the paragraph                              *
*            Process the customer transactions                *
*            Write the page footer                            *
*            End the page                                     *
*-------------------------------------------------------------*

 PROCESS-A-CUSTOMER.
     MOVE CUSTOMER-BALANCE-IN TO CUSTOMER-BALANCE-OUT.

*-------------------------------------------------------------*
* Initialize the number of transactions for this customer to 0  *
*-------------------------------------------------------------*
     MOVE 1 TO NUM-CUSTOMER-PAGES.

       MOVE AFP-DEFAULT TO AFP-PAGE-WIDTH.
       MOVE AFP-DEFAULT TO AFP-PAGE-DEPTH.
     PERFORM 220-AFPBPAGE.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

     PERFORM CREATE-THE-HEADER.

*-------------------------------------------------------------*
* Calculate the page body size as the page size less the page   *
* header and bottom margin.                                   *
*-------------------------------------------------------------*
     COMPUTE PAGE-BODY = AFP-DOC-PAGE-DEPTH - PAGE-HEADER-DEPTH -
          BOTTOM-MARGIN.

     PERFORM PROCESS-THE-PARAGRAPH.
*-------------------------------------------------------------*
* Calculate the remaining page body after the paragraph.        *
*-------------------------------------------------------------*
     COMPUTE PAGE-BODY = PAGE-BODY - AFP-PARAGRAPH-DEPTH.

     PERFORM PROCESS-TRANSACTIONS.

     PERFORM CREATE-THE-FOOTER.

     PERFORM 480-AFPEPAGE.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    CREATE THE HEADER.                                       *
*                                                             *
*-------------------------------------------------------------*

 CREATE-THE-HEADER.
     PERFORM PROCESS-THE-AREA.
*-------------------------------------------------------------*
* Include the Page Segment                                    *
*-------------------------------------------------------------*
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE "APQPSEG" TO AFP-PSEG-NAME.
       MOVE TRU TO AFP-INLINE-OPTION.
       MOVE FALS TO AFP-REUSE-OPTION.
     PERFORM 440-AFPIPSEG.

     PERFORM PROCESS-THE-ADDRESS.

*-------------------------------------------------------------*
* Draw a rule underneath the address                          *
*-------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 76 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE XDIRECTION TO AFP-DIRECTION.
       MOVE 158 TO AFP-RULE-LENGTH.
     PERFORM 310-AFPPRULE.

*-------------------------------------------------------------*
* Draw a rule above the last rule(tests backwards positioning)  *
*-------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 73 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE XDIRECTION TO AFP-DIRECTION.
       MOVE 158 TO AFP-RULE-LENGTH.
     PERFORM 310-AFPPRULE.
```

```
*-------------------------------------------------------------*
* Leave space after the rule                                  *
*-------------------------------------------------------------*
       MOVE 7 TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

*-------------------------------------------------------------*
* Query the position and calculate the page header depth.     *
*-------------------------------------------------------------*
     PERFORM 275-AFPQPOS.
     MOVE AFP-Y-COORDINATE TO PAGE-HEADER-DEPTH.
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE AREA                                         *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-AREA.
       MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
       MOVE 50.0 TO AFP-AREA-WIDTH.
       MOVE 65.0 TO AFP-MAX-AREA-DEPTH.
       MOVE NOSHADE TO AFP-SHADING-PATTERN.
       MOVE 0 TO AFP-SHADING-INTENSITY.
     PERFORM 230-AFPCAREA.
       MOVE AFP-AREA-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
* Include the Page Overlay                                    *
*-------------------------------------------------------------*
       MOVE "O1APQL2" TO AFP-OVLY-NAME.
     PERFORM 236-AFPIPOVL.

*-------------------------------------------------------------*
* Write the account number                                    *
*-------------------------------------------------------------*
       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 7 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE ACCOUNT-NUM-IN TO ACCOUNT-NUM-OUT.
       MOVE 19 TO AFP-STRING-LENGTH.
       MOVE ACCOUNT-NUM-OUT TO AFP-CHARACTER-STRING.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the due date.                                         *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 12 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE DUE-DATE TO AFP-CHARACTER-STRING.
       MOVE 11 TO AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer balance.                                 *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 19 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       CALL "TRIM" USING CUSTOMER-BALANCE-OUT,
                    BY CONTENT LENGTH OF CUSTOMER-BALANCE-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer payment.                                 *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 24 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

          MULTIPLY .1 BY CUSTOMER-BALANCE-IN GIVING
            MIN-AMOUNT-DUE-COMP ROUNDED.
          MOVE MIN-AMOUNT-DUE-COMP TO MIN-AMOUNT-DUE-OUT.
       CALL "TRIM" USING MIN-AMOUNT-DUE-OUT,
                    BY CONTENT LENGTH OF MIN-AMOUNT-DUE-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

     PERFORM 470-AFPEAREA.

*-------------------------------------------------------------*
* Place the area on the page.                                 *
*-------------------------------------------------------------*
       MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
       MOVE 137 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE ORIENTO TO AFP-AREA-ROTATION.
     PERFORM 235-AFPPAREA.

*-------------------------------------------------------------*
* Destroy the area from AFP API storage.                      *
*-------------------------------------------------------------*
     PERFORM 237-AFPXAREA.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE ADDRESS.                                     *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-ADDRESS.
```

```
*-------------------------------------------------------------*
* Write the customer name.                                    *
*-------------------------------------------------------------*
       MOVE TIM12BOLD TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 56 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-NAME,
                    BY CONTENT LENGTH OF CUST-NAME,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer address.                                 *
*-------------------------------------------------------------*
       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 1 TO AFP-Y-COORDINATE.
       MOVE YLINES TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-ST-ADDR,
                    BY CONTENT LENGTH OF CUST-ST-ADDR,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

       MOVE 1 TO AFP-Y-COORDINATE.
       MOVE YLINES TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-CITY-STATE,
                    BY CONTENT LENGTH OF CUST-CITY-STATE,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE PARAGRAPH.                                   *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-PARAGRAPH.
       MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE PARAGRAPH-WHITE-SPACE TO AFP-Y-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE 0.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 0 TO AFP-FIRST-LINE-INDENT.
       MOVE FOJUSTIFY TO AFP-FORMAT-OPTION.
       MOVE AFP-DEFAULT TO AFP-FIRST-LINE-OFFSET.
       MOVE 10.0 TO AFP-LEFT-MARGIN.
       MOVE 135.0 TO AFP-LINE-LENGTH.
       MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
       MOVE TRU TO AFP-PARAGRAPH-FRAME.
       MOVE 158.0 TO AFP-RT-RULE-OFFSET.
       MOVE 0.0 TO AFP-BOT-RULE-OFFSET.
       MOVE NOSHADE TO AFP-SHADING-PATTERN.
       MOVE 0 TO AFP-SHADING-INTENSITY.
     PERFORM 240-AFPBPARA.
       MOVE AFP-PARAGRAPH-HANDLE TO AFP-CURRENT-HANDLE.

       MOVE TIM12BOLD TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING "CONGRATULATIONS, " DELIMITED BY SIZE
         INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
       MOVE TRU TO AFP-CONCATENATE.
     PERFORM 320-AFPPTEXT.

       MOVE TIM12MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

     CALL "TRIM" USING CUST-NAME,
                    BY CONTENT LENGTH OF CUST-NAME,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING EXCLAMATION  DELIMITED BY SIZE
              "  Because of your excellent credit rating, you are
-    "now eligible for free credit insurance which"
          DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING " protects you in case your Primo card is ever lost
-       "or stolen.  "
          DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING "  Call NOW for more information" DELIMITED BY SIZE
             EXCLAMATION DELIMITED BY SIZE
          INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE TRU TO AFP-UNDERLINE.
     PERFORM 320-AFPPTEXT.

     PERFORM 460-AFPEPARA.

*-------------------------------------------------------------*
* Calculate the amount of space taken up by the paragraph.    *
*-------------------------------------------------------------*
     COMPUTE AFP-PARAGRAPH-DEPTH = AFP-PARAGRAPH-DEPTH +
                                   PARAGRAPH-WHITE-SPACE.

     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS TRANSACTIONS.                                    *
*                                                             *
*           Begin a table                                     *
*           Write the header rows                             *
*           Write a transaction row until no more data for    *
*                 this customer or no more data.              *
*           Write the summary row                             *
*           End the table                                     *
*           Compute the table depth.                          *
*-------------------------------------------------------------*

 PROCESS-TRANSACTIONS.

       MOVE "NO " TO NEW-CUSTOMER.

*-------------------------------------------------------------*
* Start the table whose maximum depth is the remaining page   *
* body space after the white space preceeding the table.      *
*-------------------------------------------------------------*
       MOVE 45 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE TABLE-WHITE-SPACE TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       COMPUTE AFP-MAX-TABLE-DEPTH = PAGE-BODY -
                                     TABLE-WHITE-SPACE.
       MOVE 125.0 TO AFP-TABLE-WIDTH.
       MOVE ORIENTO TO AFP-TABLE-ROTATION.
       MOVE 1.0 TO AFP-TOP-THICKNESS.
       MOVE .5 TO AFP-BOTTOM-THICKNESS.
       MOVE .5 TO AFP-LEFT-THICKNESS.
       MOVE .5 TO AFP-RIGHT-THICKNESS.
     PERFORM 362-AFPBTABL.
     MOVE AFP-TABLE-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
* Write the table header rows.                                *
*-------------------------------------------------------------*
     PERFORM WRITE-HEADER-ROWS.

*-------------------------------------------------------------*
* Write the transaction rows for this customer.               *
*-------------------------------------------------------------*
     PERFORM WRITE-TRANSACTIONS UNTIL
       NEW-CUSTOMER = "YES" OR DATA-REMAINS-SWITCH = "NO".

*-------------------------------------------------------------*
* Write the table summary rows.                               *
*-------------------------------------------------------------*
     PERFORM WRITE-SUMMARY-ROW.

*-------------------------------------------------------------*
* If the end of the table was reached, end this page, start   *
* a new page, and write the summary row that didn"t fit.      *
*-------------------------------------------------------------*
     IF AFP-SEVERITY-CODE = WARNING
               PERFORM END-CUST-PAGE
               PERFORM WRITE-SUMMARY-ROW.

*-------------------------------------------------------------*
* End the table.                                              *
*-------------------------------------------------------------*
     PERFORM 369-AFPETABL.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
* Calculate the amount of space taken up by the table.        *
*-------------------------------------------------------------*
     COMPUTE AFP-TABLE-DEPTH = AFP-TABLE-DEPTH +
                               TABLE-WHITE-SPACE.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-HEADER-ROWS.                                       *
*                                                             *
*           Write the header row for the table.               *
*-------------------------------------------------------------*
 WRITE-HEADER-ROWS.
       MOVE ROW1 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.

*-------------------------------------------------------------*
* Write the first field in column 1.                          *
*-------------------------------------------------------------*
       MOVE FIELDH1 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.
       MOVE TIM12MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.


       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Date" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                       BY CONTENT LENGTH OF AFP-STRING-IN,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the second field in column 2.                         *
*-------------------------------------------------------------*
       MOVE FIELDH2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Transaction Description" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                       BY CONTENT LENGTH OF AFP-STRING-IN,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.


     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the third field in column 3.                          *
*-------------------------------------------------------------*
       MOVE FIELDH3 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Amount" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                       BY CONTENT LENGTH OF AFP-STRING-IN,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-TRANSACTIONS.                                      *
*                                                             *
*            Write a transaction row.                         *
*            Read another input data record.                  *
*-------------------------------------------------------------*

 WRITE-TRANSACTIONS.
     PERFORM WRITE-TRANSACTION-ROW.
*-------------------------------------------------------------*
*            If the end of the table was reached,             *
*            end this page, start a new page, and             *
*            write the transaction row that didn"t fit.       *
*-------------------------------------------------------------*
     IF AFP-SEVERITY-CODE = WARNING
               PERFORM END-CUST-PAGE
               PERFORM WRITE-TRANSACTION-ROW.

     PERFORM READ-DATA.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-TRANSACTION-ROW.                                   *
*                                                             *
*            Begin a row.                                     *
*            Write the post date to the first field in the table*
*            Write the transaction description to the second  *
*                 field.                                      *
*            Write the transaction amount to the third field. *
*            End the row.                                     *
*-------------------------------------------------------------*
 WRITE-TRANSACTION-ROW.

       MOVE ROW2 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.

*-------------------------------------------------------------*
* Write the transaction date in column 1.                     *
*-------------------------------------------------------------*
       MOVE FIELDT1 TO AFP-FIELD-ID
     PERFORM 364-AFPBFLD

       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE POST-DATE-IN TO POST-DATE-OUT.
     CALL "TRIM" USING POST-DATE-OUT,
                       BY CONTENT LENGTH OF POST-DATE-OUT,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the transaction description in column 2.              *
*-------------------------------------------------------------*
       MOVE FIELDT2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING TRANSACTION-DESCRIPTION DELIMITED BY SIZE
           INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                       BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                       BY REFERENCE AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the transaction amount in column 3.                   *
*-------------------------------------------------------------*
       MOVE FIELDT3 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE TRANSACTION-AMOUNT-IN TO TRANSACTION-AMOUNT-OUT.
     CALL "TRIM" USING TRANSACTION-AMOUNT-OUT,
                       BY CONTENT LENGTH OF TRANSACTION-AMOUNT-OUT,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

       MOVE CHAR TO AFP-ALIGNMENT-OPTION.
       MOVE "." TO AFP-ALIGNMENT-CHAR.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-SUMMARY-ROW.                                       *
*                                                             *
*            Write the customer summary row.                  *
*-------------------------------------------------------------*
 WRITE-SUMMARY-ROW.

       MOVE ROW3 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.

       MOVE FIELDS1 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE TIM12MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE "Total Amount" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                       BY CONTENT LENGTH OF AFP-STRING-IN,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

       MOVE FIELDS2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

     CALL "TRIM" USING CUSTOMER-BALANCE-OUT,
                       BY CONTENT LENGTH OF CUSTOMER-BALANCE-OUT,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

       MOVE CHAR TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    CREATE-THE-FOOTER.                                       *
*                                                             *
*            Write the page footer.                           *
*-------------------------------------------------------------*
 CREATE-THE-FOOTER.
       MOVE 108 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 270 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING "Page " DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
```

```
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

     MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.

       MOVE NUM-CUSTOMER-PAGES TO NUM-CUSTOMER-PAGES-OUT.
     CALL "TRIM" USING NUM-CUSTOMER-PAGES-OUT,
                       BY CONTENT LENGTH OF
                          NUM-CUSTOMER-PAGES-OUT,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

     MOVE L-FT TO AFP-ALIGNMENT-OPTION.
     MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.

/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    END-CUST-PAGE.                                             *
*                                                               *
*            End the table.                                     *
*            Write the page footer.                             *
*            End the page.                                      *
*            Start a new page.                                  *
*            Begin a table                                      *
*            Write the header rows                              *
*---------------------------------------------------------------*
 END-CUST-PAGE.
     PERFORM 369-AFPETABL.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
*****************************************************************
*            Write the footer.                                  *
*****************************************************************
     PERFORM CREATE-THE-FOOTER.

     PERFORM 480-AFPEPAGE.

*****************************************************************
*            Start a new page.                                  *
*****************************************************************
     ADD 1 TO NUM-CUSTOMER-PAGES.
       MOVE AFP-DEFAULT TO AFP-PAGE-WIDTH.
       MOVE AFP-DEFAULT TO AFP-PAGE-DEPTH.
     PERFORM 220-AFPBPAGE.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

     PERFORM CREATE-THE-CONT-HEADER.
*---------------------------------------------------------------*
* Calculate the page body space as the page size less the       *
* continuation page header size and bottom margin.              *
*---------------------------------------------------------------*
     COMPUTE PAGE-BODY = AFP-DOC-PAGE-DEPTH - PAGE-HEADER-DEPTH -
          BOTTOM-MARGIN.

*---------------------------------------------------------------*
*            Begin a table                                      *
*---------------------------------------------------------------*
       MOVE 45 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE TABLE-WHITE-SPACE TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       COMPUTE AFP-MAX-TABLE-DEPTH = PAGE-BODY -
                                     TABLE-WHITE-SPACE.
       MOVE 125.0 TO AFP-TABLE-WIDTH.
       MOVE ORIENTO TO AFP-TABLE-ROTATION.
       MOVE 1.0 TO AFP-TOP-THICKNESS.
       MOVE .5 TO AFP-BOTTOM-THICKNESS.
       MOVE .5 TO AFP-LEFT-THICKNESS.
       MOVE .5 TO AFP-RIGHT-THICKNESS.
     PERFORM 362-AFPBTABL.
     MOVE AFP-TABLE-HANDLE TO AFP-CURRENT-HANDLE.

*---------------------------------------------------------------*
*            Write the header rows                              *
*---------------------------------------------------------------*
     PERFORM WRITE-HEADER-ROWS.

/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    CREATE THE HEADER FOR THE CONTINUATION PAGES               *
*                                                               *
*---------------------------------------------------------------*

 CREATE-THE-CONT-HEADER.
*---------------------------------------------------------------*
* Include the page segment                                      *
*---------------------------------------------------------------*
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE "APQPSEG" TO AFP-PSEG-NAME.
       MOVE TRU TO AFP-INLINE-OPTION.
       MOVE FALS TO AFP-REUSE-OPTION.
     PERFORM 440-AFPIPSEG.

*---------------------------------------------------------------*
* Draw a rule underneath the page segment                       *
*---------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 50 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE XDIRECTION TO AFP-DIRECTION.
       MOVE 158 TO AFP-RULE-LENGTH.
     PERFORM 310-AFPPRULE.

*---------------------------------------------------------------*
* Leave space after the rule                                    *
*---------------------------------------------------------------*
       MOVE 7 TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

*---------------------------------------------------------------*
* Query the position and calculate the page header depth.       *
*---------------------------------------------------------------*
     PERFORM 275-AFPQPOS.
     MOVE AFP-Y-COORDINATE TO PAGE-HEADER-DEPTH.
/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    TERMINATE THE AFPAPI AND THE PROGRAM                      *
*                                                               *
*---------------------------------------------------------------*

 END-PROCESSING.
     PERFORM 490-AFPEDOC.
     PERFORM 495-AFPTERM.

     COPY APQPERF.
     COPY APQSTRL.
     COPY APQTRIM.

 END PROGRAM APQCISMP.
```

APQCISMB

This source code uses the buffered-output function to produce the sample document shown in Figure 2 on page 104.

The sample code in APQCISMB is the same as in APQCISMP, except that code has been changed or added to perform these functions related to output buffering:

- Request AFP API to buffer output on the AFPSOUT call.
- Call AFPGBUF repeatedly at the end of each page to retrieve output records for that page and write the records to the temporary storage queue.
- Retrieve the last record at the end of the document and write the record to the temporary storage queue.

Note: The changed and added code in APQGETB is shown in a box labeled "Buffered-Output Modification."

```
 IDENTIFICATION DIVISION.
*****************************************************************
*   COBOL PROGRAM -- AFPAPI APQCISMB                            *
*                                                               *
* This program invokes the AFP API to produce a sample          *
* customer billing statement.  See the "AFP API Programming     *
* Guide and Reference" for a picture of the print output        *
* produced by this program.                                     *
* Uses the BUFFERED Interface and writes own TS records         *
*****************************************************************
 PROGRAM-ID. APQCISMB.
 ENVIRONMENT DIVISION.

   CONFIGURATION SECTION.
    SOURCE-COMPUTER. IBM.
    OBJECT-COMPUTER. IBM.

   INPUT-OUTPUT SECTION.
    FILE-CONTROL.
*      SELECT INPUT-DATA
*          ASSIGN TO DATAFILE
*          ORGANIZATION IS SEQUENTIAL
*          FILE STATUS IS FILE-STATUS.
*
*****************************************************************
*                                                               *
*                    DATA DIVISION                              *
*                                                               *
*****************************************************************
 DATA DIVISION.
   FILE SECTION.
*   FD INPUT-DATA
*    BLOCK CONTAINS 0 RECORDS
*    RECORD CONTAINS 80 CHARACTERS
*    LABEL RECORDS OMITTED
*    RECORDING MODE F.
*   01  INPUT-RECORD.
*    03  POST-DATE-IN               PIC 9(4).
*    03  TRANSACTION-DESCRIPTION    PIC X(40).
*    03  TRANSACTION-AMOUNT-IN      PIC S9(7)V9(2).

   WORKING-STORAGE SECTION.
```

CICS/ESA Modification

```
01 MESSAGES.
 03 MSG1                        PIC X(15)
                    VALUE "APQSAMP STARTED".
 03 MSG2                        PIC X(17)
                    VALUE "APQSAMP COMPLETED".
 03 MSG3                        PIC X(10)
                    VALUE "AFPINIT OK".
 03 MSG4                        PIC X(6)
                    VALUE "FAILED".
 03 MSG5                        PIC X(3)
                    VALUE "RC:".
 03 MSG6                        PIC X(5)
                    VALUE "SEVC:".
 03 MSG7                        PIC X(7)
                    VALUE "HANDLE:".
 03 MSG8                        PIC X(4)
                    VALUE "  OK".
```

End of CICS/ESA Modification

```
    01  INPUT-RECORD.
     03  POST-DATE-IN               PIC 9(4).
     03  TRANSACTION-DESCRIPTION    PIC X(40).
     03  TRANSACTION-AMOUNT-IN      PIC S9(7)V9(2).
*
    01  FILE-STATUS                    PIC 99.
    01  CUST-IN.
     03  CUST-NAME                  PIC X(25) VALUE SPACES.
     03  CUST-ST-ADDR               PIC X(30) VALUE SPACES.
     03  CUST-CITY-STATE            PIC X(35) VALUE SPACES.
     03  ACCOUNT-NUM-IN             PIC 9(16) VALUE ZERO.
     03  CUSTOMER-BALANCE-IN        PIC S9(7)V9(2) BINARY.

    01  TRANSACTION-PROCESSING-VARS.
     03  PAGE-HEADER-DEPTH          PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  PAGE-BODY                  PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  BOTTOM-MARGIN              PIC 9(5)V9(4) BINARY
                                    VALUE 20.0.
     03  TABLE-WHITE-SPACE          PIC 9(5)V9(4) BINARY
                                    VALUE 10.0.
     03  PARAGRAPH-WHITE-SPACE      PIC 9(5)V9(4) BINARY
                                    VALUE 0.0.
     03  TABLE-DEPTH                PIC 9(5)V9(4) VALUE 0.0.
     03  END-TABLE-POSITION         PIC 9(5)V9(4) VALUE ZERO.
     03  NUM-CUSTOMER-PAGES         PIC 99 BINARY VALUE 1.
```

```
    01  CUST-OUT.
     03  ACCOUNT-NUM-OUT            PIC 9999B9999B9999B9999.
     03  OLD-BALANCE-OUT            PIC $$,$$$,$$9.99.
     03  MIN-AMOUNT-DUE-OUT         PIC $$$$,$$9.99.
     03  POST-DATE-OUT              PIC 99/99.
     03  TRANSACTION-DATE-OUT       PIC 99/99.
     03  TRANSACTION-AMOUNT-OUT     PIC $$,$$$,$$9.99CR.
     03  CUSTOMER-BALANCE-OUT       PIC $$,$$$,$$9.99CR.
     03  NUM-CUSTOMER-PAGES-OUT     PIC Z9.

    01  DUE-DATE.
     03  DUE-MONTH                  PIC X(3) VALUE "OCT".
     03  FILLER                     PIC X VALUE SPACE.
     03  DUE-DAY                    PIC X(3) VALUE "15,".
     03  DUE-YEAR                   PIC X(4) VALUE "1992".

    01  PROCESSING-SWITCHES.
     03  DATA-REMAINS-SWITCH        PIC X(3) VALUE "YES".
     03  NEW-CUSTOMER               PIC X(3) VALUE "NO ".
     03  MIN-AMOUNT-DUE-COMP        PIC 9(7)V99.

    01  EXCLAMATION                 PIC X VALUE X"4f".

    01  FONT-IDS.
         05  TIM10MED               PIC X(9).
         05  TIM12MED               PIC X(9).
         05  TIM12MEDITAL           PIC X(9).
         05  TIM12BOLD              PIC X(9).
    01  FIELD-IDS.
         05  FIELDH1                PIC 9(8) BINARY.
         05  FIELDH2                PIC 9(8) BINARY.
         05  FIELDH3                PIC 9(8) BINARY.
         05  FIELDT1                PIC 9(8) BINARY.
         05  FIELDT2                PIC 9(8) BINARY.
         05  FIELDT3                PIC 9(8) BINARY.
         05  FIELDS1                PIC 9(8) BINARY.
         05  FIELDS2                PIC 9(8) BINARY.
 01  ROW-IDS.
         05  ROW1                   PIC X(9).
         05  ROW2                   PIC X(9).
         05  ROW3                   PIC X(9).

     COPY APQCONST.
     COPY APQRCS.
     COPY APQVARS.
```

Buffered-Output Modification

```
*****************************************************************
*                                                               *
*   EXTRA VARIABLES FOR CICS                                    *
*                                                               *
*****************************************************************

 01  AFP-BUFFER-LENGTH-REDEFINED.
         05  AFP-BUFFER-LENGTH-OVERLAY       PIC 9(8)  BINARY.
 01  AFP-BUFFER-LENGTH-A REDEFINES AFP-BUFFER-LENGTH-REDEFINED.
         05  FILLER                          PIC X(2).
         05  AFP-BUFFER-LENGTH-HALFWORD      PIC S9(4) COMP.
```

End of Buffered-Output Modification

```
/---------------------------------------------------------------*
*****************************************************************
*                                                               *
*   MAINLINE                                                    *
*                                                               *
*           This program produces a sample customer statement.*
*           The statement contains a logo stored in a page      *
*           segment, a paragraph enclosed in a box with         *
*           variable data, account summary information          *
*           which is highlighted in a shaded area, and          *
*           the account transactions contained in a variable    *
*           depth table.                                        *
*                                                               *
*           The mainline logic is as follows:                   *
*                                                               *
*           Initialize the API and define the fonts, fields,    *
*                and rows.                                      *
*           Load the sample data for the first customer         *
*           Process a customer until no more customers to       *
*                process.                                       *
*           End the API.                                        *
*****************************************************************
 PROCEDURE DIVISION.


 MAINLINE.

*
*    OPEN INPUT INPUT-DATA.
*    IF FILE-STATUS NOT = ZEROS
*            DISPLAY "UNABLE TO OPEN INPUT FILE"
*            DISPLAY "FILE STATUS" FILE-STATUS
*            STOP RUN.
```

CICS/ESA Modification

```
     EXEC CICS WRITEQ TD QUEUE("CSSL") FROM(MSG1) END-EXEC.
```

End of CICS/ESA Modification

```
     PERFORM SETUP-AFPAPI.
     PERFORM READ-DATA.
*    PERFORM PROCESS-A-CUSTOMER UNTIL DATA-REMAINS-SWITCH
*                = "NO ".
     PERFORM PROCESS-A-CUSTOMER.
     PERFORM END-PROCESSING.

*    CLOSE INPUT-DATA.
```

CICS/ESA Modification

```
     EXEC CICS WRITEQ TD QUEUE("CSSL") FROM(MSG2) END-EXEC.
     EXEC CICS SEND CONTROL FREEKB ERASE END-EXEC.
```

End of CICS/ESA Modification

```
     STOP RUN.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SETUP-AFPAPI.                                            *
*        Initialize the AFP API.                              *
*        Set the output characteristics.                      *
*        Begin a document.                                    *
*        Define the fonts.                                    *
*        Define the fields and rows of a table.               *
*                                                             *
*-------------------------------------------------------------*


 SETUP-AFPAPI.
         MOVE FALS TO AFP-TRACE.
     PERFORM 200-AFPINIT.

*-------------------------------------------------------------*
*                                                             *
*    Set the output characteristics.                          *
*                                                             *
*-------------------------------------------------------------*
         MOVE 8205 TO AFP-OUTPUT-RECORD-SIZE.


┌──────────────── Buffered-Output Modification ────────────────┐

         MOVE BUFFERED TO AFP-OUTPUT-FILENAME.

└─────────────── End of Buffered-Output Modification ─────────────┘

         MOVE TRU TO AFP-REPLACE.
     PERFORM 395-AFPSOUTC.

         MOVE MM TO AFP-UNIT-OF-MEASURE.
         MOVE 215 TO AFP-DOC-PAGE-WIDTH.
         MOVE 280 TO AFP-DOC-PAGE-DEPTH.
         MOVE ORIENTO TO AFP-PAGE-ORIENTATION.
     PERFORM 210-AFPBDOC.
     MOVE AFP-DOCUMENT-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
*                                                             *
*    Define the fonts.                                       *
*                                                             *
*-------------------------------------------------------------*
         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 10 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM10MED.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12MED.

         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE MEDIUM TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ITALIC TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12MEDITAL.
         MOVE "T1V10500" TO AFP-CODE-PAGE.
         MOVE 22 TO AFP-DESC-NAME-LENGTH.
         MOVE "TIMES NEW ROMAN LATIN1" TO AFP-DESCRIPTIVE-NAME.
         MOVE 12 TO AFP-POINT-SIZE.
         MOVE BOLD TO AFP-WEIGHT.
         MOVE NORMAL TO AFP-FONT-WIDTH.
         MOVE ORIENTO TO AFP-ROTATION.
         MOVE ROMAN TO AFP-STYLE.
     PERFORM 260-AFPDFONT.
           MOVE AFP-FONT-ID TO TIM12BOLD.

/-------------------------------------------------------------*
*   THIS IS THE START OF THE FIELD AND ROW DEFINITIONS        *
*-------------------------------------------------------------*

         MOVE FOCENTER TO AFP-FORMAT-OPTION.
         MOVE 0 TO AFP-ALIGNMENT-POSITION.
         MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
         MOVE 0.0 TO AFP-LEFT-MARGIN.
         MOVE 0.0 TO AFP-RIGHT-MARGIN.
         MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
         MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
         MOVE SCREEN TO AFP-SHADING-PATTERN.
         MOVE 18 TO AFP-SHADING-INTENSITY.
         MOVE .5 TO AFP-TOP-THICKNESS.
         MOVE .5 TO AFP-BOTTOM-THICKNESS.
         MOVE .5 TO AFP-LEFT-THICKNESS.
         MOVE .5 TO AFP-RIGHT-THICKNESS.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDH1.

     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDH2.

     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDH3.

         MOVE 3 TO AFP-NUMBER-COLUMNS.
         MOVE 1 TO AFP-NUMBER-SUBROWS.
         MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
         MOVE FIELDH1 TO AFP-COLUMN-ARRANGE (1, 1).
         MOVE 25.0 TO AFP-COLUMN-WIDTH (1).
         MOVE FIELDH2 TO AFP-COLUMN-ARRANGE (1, 2).
         MOVE 70.0 TO AFP-COLUMN-WIDTH (2).
         MOVE FIELDH3 TO AFP-COLUMN-ARRANGE (1, 3).
         MOVE 30.0 TO AFP-COLUMN-WIDTH (3).
     PERFORM 361-AFPDROW.
       MOVE AFP-ROW-ID TO ROW1.

/-------------------------------------------------------------*
*  Define the transaction row
*-------------------------------------------------------------*
         MOVE FOCENTER TO AFP-FORMAT-OPTION.
         MOVE 0 TO AFP-ALIGNMENT-POSITION.
         MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
         MOVE 1.0 TO AFP-LEFT-MARGIN.
         MOVE 1.0 TO AFP-RIGHT-MARGIN.
         MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
         MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
         MOVE NOSHADE TO AFP-SHADING-PATTERN.
         MOVE 0 TO AFP-SHADING-INTENSITY.
         MOVE 0.5 TO AFP-TOP-THICKNESS.
         MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
         MOVE 0.5 TO AFP-LEFT-THICKNESS.
         MOVE 0.5 TO AFP-RIGHT-THICKNESS.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDT1.

     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDT2.

         MOVE 0.0 TO AFP-LEFT-MARGIN.
         MOVE 20 TO AFP-ALIGNMENT-POSITION.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDT3.
```

```
         MOVE 0.5 TO AFP-TOP-THICKNESS.
         MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
         MOVE 1 TO AFP-NUMBER-SUBROWS.
         MOVE 3 TO AFP-NUMBER-COLUMNS.
         MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
         MOVE FIELDT1 TO AFP-COLUMN-ARRANGE (1, 1).
         MOVE 25.0 TO AFP-COLUMN-WIDTH (1).
         MOVE FIELDT2 TO AFP-COLUMN-ARRANGE (1, 2).
         MOVE 70.0 TO AFP-COLUMN-WIDTH (2).
         MOVE FIELDT3 TO AFP-COLUMN-ARRANGE (1, 3).
         MOVE 30.0 TO AFP-COLUMN-WIDTH (3).
     PERFORM 361-AFPDROW.
       MOVE AFP-ROW-ID TO ROW2.

/-----------------------------------------------------------------*
*  Define the summary row
*-----------------------------------------------------------------*
         MOVE FOCENTER TO AFP-FORMAT-OPTION.
         MOVE 0 TO AFP-ALIGNMENT-POSITION.
         MOVE VERCENTER TO AFP-VERTICAL-FORMAT.
         MOVE 1.0 TO AFP-LEFT-MARGIN.
         MOVE 1.0 TO AFP-RIGHT-MARGIN.
         MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
         MOVE TXTORO-0 TO AFP-TEXT-ORIENTATION.
         MOVE SCREEN TO AFP-SHADING-PATTERN.
         MOVE 18 TO AFP-SHADING-INTENSITY.
         MOVE 0.5 TO AFP-TOP-THICKNESS.
         MOVE 0.5 TO AFP-BOTTOM-THICKNESS.
         MOVE 0.5 TO AFP-LEFT-THICKNESS.
         MOVE 0.5 TO AFP-RIGHT-THICKNESS.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDS1.

         MOVE 0.0 TO AFP-LEFT-MARGIN.
         MOVE 20 TO AFP-ALIGNMENT-POSITION.
     PERFORM 360-AFPDFLD.
       MOVE AFP-FIELD-ID TO FIELDS2.

         MOVE 0.0 TO AFP-TOP-THICKNESS.
         MOVE 0.0 TO AFP-BOTTOM-THICKNESS.
         MOVE 1 TO AFP-NUMBER-SUBROWS.
         MOVE 2 TO AFP-NUMBER-COLUMNS.
         MOVE AFP-DEFAULT TO AFP-SUBROW-DEPTH(1).
         MOVE FIELDS1 TO AFP-COLUMN-ARRANGE (1, 1).
         MOVE 95.0 TO AFP-COLUMN-WIDTH (1).
         MOVE FIELDS2 TO AFP-COLUMN-ARRANGE (1, 2).
         MOVE 30.0 TO AFP-COLUMN-WIDTH (2).
     PERFORM 361-AFPDROW.
       MOVE AFP-ROW-ID TO ROW3.

/-----------------------------------------------------------------*
*-----------------------------------------------------------------*
*                                                                 *
*      READ SAMPLE DATA                                           *
*                                                                 *
*-----------------------------------------------------------------*
 READ-DATA.
*    READ INPUT-DATA AT END
*          MOVE "NO" TO DATA-REMAINS-SWITCH
*    END-READ.
     MOVE 0 TO POST-DATE-IN.
     MOVE "9999888877776666" TO TRANSACTION-DESCRIPTION.
     MOVE 0 TO TRANSACTION-AMOUNT-IN.
*    IF FILE-STATUS NOT = ZEROS AND FILE-STATUS NOT = 10
*            DISPLAY "READ ERROR"
*            DISPLAY "FILE STATUS" FILE-STATUS
*            STOP RUN.
*-----------------------------------------------------------------*
* If this is a new customer, read the customer address and      *
* account balance.                                              *
*-----------------------------------------------------------------*
     IF POST-DATE-IN EQUAL ZEROS
       MOVE "YES" TO NEW-CUSTOMER
       STRING TRANSACTION-DESCRIPTION DELIMITED BY " "
          INTO ACCOUNT-NUM-IN ON OVERFLOW CONTINUE
       END-STRING

*-----------------------------------------------------------------*
* Read the customer name                                        *
*-----------------------------------------------------------------*
*      READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
*      END-READ
     MOVE 0 TO POST-DATE-IN.
     MOVE "SUSAN B. AMES" TO TRANSACTION-DESCRIPTION.
     MOVE 0 TO TRANSACTION-AMOUNT-IN.
       MOVE TRANSACTION-DESCRIPTION TO CUST-NAME

*-----------------------------------------------------------------*
* Read the customer street address.                             *
*-----------------------------------------------------------------*
*      READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
*      END-READ
     MOVE 0 TO POST-DATE-IN.
     MOVE "98765, N. FRONTAGE ROAD" TO TRANSACTION-DESCRIPTION.
     MOVE 0 TO TRANSACTION-AMOUNT-IN.
       MOVE TRANSACTION-DESCRIPTION TO CUST-ST-ADDR

*-----------------------------------------------------------------*
* Read the customer city and state.                             *
*-----------------------------------------------------------------*
*      READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
*      END-READ
     MOVE 0 TO POST-DATE-IN.
     MOVE "TIN CUP, COLORADO 80000" TO TRANSACTION-DESCRIPTION.
     MOVE 0 TO TRANSACTION-AMOUNT-IN.
       MOVE TRANSACTION-DESCRIPTION TO CUST-CITY-STATE

*-----------------------------------------------------------------*
* Read the customer balance.                                    *
*-----------------------------------------------------------------*
*      READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
*      END-READ
     MOVE 0 TO POST-DATE-IN.
     MOVE "TOTAL" TO TRANSACTION-DESCRIPTION.
     MOVE 3572.15 TO TRANSACTION-AMOUNT-IN.
       MOVE TRANSACTION-AMOUNT-IN TO CUSTOMER-BALANCE-IN
*-----------------------------------------------------------------*
* Read the first customer transaction                           *
*-----------------------------------------------------------------*
*      READ INPUT-DATA AT END MOVE "NO" TO DATA-REMAINS-SWITCH
*      END-READ
     MOVE 0820 TO POST-DATE-IN.
     MOVE "CNTRL RSRV - Lodging Winter park CO"
             TO TRANSACTION-DESCRIPTION.
     MOVE 173.12 TO TRANSACTION-AMOUNT-IN.
*      IF FILE-STATUS NOT = ZEROS
*            DISPLAY "READ ERROR"
*            DISPLAY "FILE STATUS" FILE-STATUS
*            STOP RUN
*      ELSE CONTINUE
*      END-IF
*    ELSE CONTINUE
*    END-IF.
/-----------------------------------------------------------------*
*-----------------------------------------------------------------*
*                                                                 *
*    PROCESS THE CUSTOMER.                                        *
*                                                                 *
*            Begin a page                                         *
*            Write the page header                                *
*            Write the paragraph                                  *
*            Process the customer transactions                    *
*            Write the page footer                                *
*            End the page                                         *
*-----------------------------------------------------------------*

 PROCESS-A-CUSTOMER.
     MOVE CUSTOMER-BALANCE-IN TO CUSTOMER-BALANCE-OUT.
```

```
*-------------------------------------------------------------*
* Initialize the number of transactions for this customer to 0  *
*-------------------------------------------------------------*
     MOVE 1 TO NUM-CUSTOMER-PAGES.

       MOVE AFP-DEFAULT TO AFP-PAGE-WIDTH.
       MOVE AFP-DEFAULT TO AFP-PAGE-DEPTH.
     PERFORM 220-AFPBPAGE.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

     PERFORM CREATE-THE-HEADER.
*-------------------------------------------------------------*
* Calculate the page body size as the page size less the page   *
* header and bottom margin.                                     *
*-------------------------------------------------------------*
     COMPUTE PAGE-BODY = AFP-DOC-PAGE-DEPTH - PAGE-HEADER-DEPTH -
          BOTTOM-MARGIN.

     PERFORM PROCESS-THE-PARAGRAPH.
*-------------------------------------------------------------*
* Calculate the remaining page body after the paragraph.        *
*-------------------------------------------------------------*
     COMPUTE PAGE-BODY = PAGE-BODY - AFP-PARAGRAPH-DEPTH.

     PERFORM PROCESS-TRANSACTIONS.

     PERFORM CREATE-THE-FOOTER.

     PERFORM 480-AFPEPAGE.
```

Buffered-Output Modification

```
     PERFORM WRITE-BUF WITH TEST AFTER UNTIL AFP-MORE-RECORDS
                 = FALS.
```

End of Buffered-Output Modification

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE OUT THE BUFFER                                     *
*                                                             *
*-------------------------------------------------------------*
```

Buffered-Output Modification

```
 WRITE-BUF.
     MOVE LENGTH OF AFP-BUFFER TO AFP-BUFFER-LENGTH.
     PERFORM 396-AFPGBUF.
     MOVE AFP-BUFFER-LENGTH TO AFP-BUFFER-LENGTH-REDEFINED.
     EXEC CICS WRITEQ TS QUEUE("APQSAMPB") FROM(AFP-BUFFER)
               LENGTH(AFP-BUFFER-LENGTH-HALFWORD) END-EXEC.
```

End of Buffered-Output Modification

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    CREATE THE HEADER.                                       *
*                                                             *
*-------------------------------------------------------------*

 CREATE-THE-HEADER.
     PERFORM PROCESS-THE-AREA.

*-------------------------------------------------------------*
* Include the Page Segment                                    *
*-------------------------------------------------------------*
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE "APQPSEG" TO AFP-PSEG-NAME.
       MOVE TRU TO AFP-INLINE-OPTION.
       MOVE FALS TO AFP-REUSE-OPTION.
     PERFORM 440-AFPIPSEG.

     PERFORM PROCESS-THE-ADDRESS.

*-------------------------------------------------------------*
* Draw a rule underneath the address                          *
*-------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 76 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE XDIRECTION TO AFP-DIRECTION.
       MOVE 158 TO AFP-RULE-LENGTH.
     PERFORM 310-AFPPRULE.
*-------------------------------------------------------------*
* Draw a rule above the last rule(tests backwards positioning)  *
*-------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 73 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE XDIRECTION TO AFP-DIRECTION.
       MOVE 158 TO AFP-RULE-LENGTH.
     PERFORM 310-AFPPRULE.

*-------------------------------------------------------------*

*-------------------------------------------------------------*
* Leave space after the rule                                  *
*-------------------------------------------------------------*
       MOVE 4 TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

*-------------------------------------------------------------*
* Query the position and calculate the page header depth.     *
*-------------------------------------------------------------*
     PERFORM 275-AFPQPOS.
     MOVE AFP-Y-COORDINATE TO PAGE-HEADER-DEPTH.
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE AREA                                         *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-AREA.
       MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
       MOVE 50.0 TO AFP-AREA-WIDTH.
       MOVE 65.0 TO AFP-MAX-AREA-DEPTH.
       MOVE NOSHADE TO AFP-SHADING-PATTERN.
       MOVE 0 TO AFP-SHADING-INTENSITY.
     PERFORM 230-AFPCAREA.
       MOVE AFP-AREA-HANDLE TO AFP-CURRENT-HANDLE.
```

```
*-------------------------------------------------------------*
* Include the Page Overlay                                    *
*-------------------------------------------------------------*
       MOVE "01APQL2" TO AFP-OVLY-NAME.
     PERFORM 236-AFPIPOVL.

*-------------------------------------------------------------*
* Write the account number                                    *
*-------------------------------------------------------------*
       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 7 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE ACCOUNT-NUM-IN TO ACCOUNT-NUM-OUT.
       MOVE 19 TO AFP-STRING-LENGTH.
       MOVE ACCOUNT-NUM-OUT TO AFP-CHARACTER-STRING.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the due date.                                         *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 12 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE DUE-DATE TO AFP-CHARACTER-STRING.
       MOVE 11 TO AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer balance.                                 *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 19 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       CALL "TRIM" USING CUSTOMER-BALANCE-OUT,
                         BY CONTENT LENGTH OF CUSTOMER-BALANCE-OUT,
                         BY REFERENCE AFP-CHARACTER-STRING,
                         AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer payment.                                 *
*-------------------------------------------------------------*
       MOVE 49 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 24 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

         MULTIPLY .1 BY CUSTOMER-BALANCE-IN GIVING
           MIN-AMOUNT-DUE-COMP ROUNDED.
         MOVE MIN-AMOUNT-DUE-COMP TO MIN-AMOUNT-DUE-OUT.
       CALL "TRIM" USING MIN-AMOUNT-DUE-OUT,
                         BY CONTENT LENGTH OF MIN-AMOUNT-DUE-OUT,
                         BY REFERENCE AFP-CHARACTER-STRING,
                         AFP-STRING-LENGTH.
       MOVE R-GHT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

     PERFORM 470-AFPEAREA.

*-------------------------------------------------------------*
* Place the area on the page.                                 *
*-------------------------------------------------------------*
       MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
       MOVE 137 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE ORIENTO TO AFP-AREA-ROTATION.
     PERFORM 235-AFPPAREA.

*-------------------------------------------------------------*
* Destroy the area from AFP API storage.                      *
*-------------------------------------------------------------*
     PERFORM 237-AFPXAREA.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE ADDRESS.                                     *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-ADDRESS.
*-------------------------------------------------------------*
* Write the customer name.                                    *
*-------------------------------------------------------------*
       MOVE TIM12BOLD TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 56 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-NAME,
                       BY CONTENT LENGTH OF CUST-NAME,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

*-------------------------------------------------------------*
* Write the customer address.                                 *
*-------------------------------------------------------------*
       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE 1 TO AFP-Y-COORDINATE.
       MOVE YLINES TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-ST-ADDR,
                       BY CONTENT LENGTH OF CUST-ST-ADDR,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

       MOVE 1 TO AFP-Y-COORDINATE.
       MOVE YLINES TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

     CALL "TRIM" USING CUST-CITY-STATE,
                       BY CONTENT LENGTH OF CUST-CITY-STATE,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS THE PARAGRAPH.                                   *
*                                                             *
*-------------------------------------------------------------*

 PROCESS-THE-PARAGRAPH.
      MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

      MOVE 29 TO AFP-X-COORDINATE.
      MOVE PARAGRAPH-WHITE-SPACE TO AFP-Y-COORDINATE.
      MOVE XABS TO AFP-X-REF-COORD-SYS.
      MOVE YREL TO AFP-Y-REF-COORD-SYS.
    PERFORM 270-AFPSPOS.

      MOVE 0.5 TO AFP-RULE-THICKNESS.
    PERFORM 290-AFPSRTHK.

      MOVE 0 TO AFP-FIRST-LINE-INDENT.
      MOVE FOJUSTIFY TO AFP-FORMAT-OPTION.
      MOVE AFP-DEFAULT TO AFP-FIRST-LINE-OFFSET.
      MOVE 10.0 TO AFP-LEFT-MARGIN.
      MOVE 135.0 TO AFP-LINE-LENGTH.
      MOVE AFP-DEFAULT TO AFP-LINE-SPACING.
      MOVE TRU TO AFP-PARAGRAPH-FRAME.
      MOVE 158.0 TO AFP-RT-RULE-OFFSET.
      MOVE 0.0 TO AFP-BOT-RULE-OFFSET.
      MOVE NOSHADE TO AFP-SHADING-PATTERN.
      MOVE 0 TO AFP-SHADING-INTENSITY.
    PERFORM 240-AFPBPARA.
      MOVE AFP-PARAGRAPH-HANDLE TO AFP-CURRENT-HANDLE.

      MOVE TIM12BOLD TO AFP-FONT-ID.
    PERFORM 265-AFPSFONT.

      MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
      STRING "CONGRATULATIONS, " DELIMITED BY SIZE
        INTO AFP-CHARACTER-STRING.
      CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

      MOVE FALS TO AFP-UNDERLINE.
      MOVE TRU TO AFP-CONCATENATE.
    PERFORM 320-AFPPTEXT.

      MOVE TIM12MED TO AFP-FONT-ID.
    PERFORM 265-AFPSFONT.

    CALL "TRIM" USING CUST-NAME,
                    BY CONTENT LENGTH OF CUST-NAME,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

      MOVE FALS TO AFP-UNDERLINE.
    PERFORM 320-AFPPTEXT.

      MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
      STRING EXCLAMATION  DELIMITED BY SIZE
             "  Because of your excellent credit rating, you are
-    "now eligible for free credit insurance which"
       DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
      CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

      MOVE FALS TO AFP-UNDERLINE.
    PERFORM 320-AFPPTEXT.

      MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
      STRING " protects you in case your Primo card is ever lost
-      "or stolen.  "
       DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
      CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

      MOVE FALS TO AFP-UNDERLINE.
    PERFORM 320-AFPPTEXT.

      MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
      STRING "  Call NOW for more information" DELIMITED BY SIZE
            EXCLAMATION DELIMITED BY SIZE
       INTO AFP-CHARACTER-STRING.
      CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

      MOVE TRU TO AFP-UNDERLINE.
    PERFORM 320-AFPPTEXT.

    PERFORM 460-AFPEPARA.

*-------------------------------------------------------------*
* Calculate the amount of space taken up by the paragraph.    *
*-------------------------------------------------------------*
    COMPUTE AFP-PARAGRAPH-DEPTH = AFP-PARAGRAPH-DEPTH +
                                  PARAGRAPH-WHITE-SPACE.

    MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PROCESS TRANSACTIONS.                                    *
*                                                             *
*           Begin a table                                     *
*           Write the header rows                             *
*           Write a transaction row until no more data for    *
*                 this customer or no more data.              *
*           Write the summary row                             *
*           End the table                                     *
*           Compute the table depth.                          *
*-------------------------------------------------------------*

 PROCESS-TRANSACTIONS.

      MOVE "NO " TO NEW-CUSTOMER.

*-------------------------------------------------------------*
* Start the table whose maximum depth is the remaining page    *
* body space after the white space preceeding the table.       *
*-------------------------------------------------------------*
      MOVE 45 TO AFP-X-COORDINATE.
      MOVE XABS TO AFP-X-REF-COORD-SYS.
      MOVE TABLE-WHITE-SPACE TO AFP-Y-COORDINATE.
      MOVE YREL TO AFP-Y-REF-COORD-SYS.
    PERFORM 270-AFPSPOS.

      COMPUTE AFP-MAX-TABLE-DEPTH = PAGE-BODY -
                                    TABLE-WHITE-SPACE.
      MOVE 125.0 TO AFP-TABLE-WIDTH.
      MOVE ORIENTO TO AFP-TABLE-ROTATION.
      MOVE 1.0 TO AFP-TOP-THICKNESS.
      MOVE .5 TO AFP-BOTTOM-THICKNESS.
      MOVE .5 TO AFP-LEFT-THICKNESS.
      MOVE .5 TO AFP-RIGHT-THICKNESS.
    PERFORM 362-AFPBTABL.
    MOVE AFP-TABLE-HANDLE TO AFP-CURRENT-HANDLE.
```

```
*-------------------------------------------------------------*
* Write the table header rows.                                *
*-------------------------------------------------------------*
     PERFORM WRITE-HEADER-ROWS.

*-------------------------------------------------------------*
* Write the transaction rows for this customer.               *
*-------------------------------------------------------------*
     PERFORM WRITE-TRANSACTIONS UNTIL
       NEW-CUSTOMER = "YES" OR DATA-REMAINS-SWITCH = "NO".

*-------------------------------------------------------------*
* Write the table summary rows.                               *
*-------------------------------------------------------------*
     PERFORM WRITE-SUMMARY-ROW.

*-------------------------------------------------------------*
* If the end of the table was reached, end this page, start   *
* a new page, and write the summary row that didn't fit.      *
*-------------------------------------------------------------*
     IF AFP-SEVERITY-CODE = WARNING
               PERFORM END-CUST-PAGE
               PERFORM WRITE-SUMMARY-ROW.

*-------------------------------------------------------------*
* End the table.                                              *
*-------------------------------------------------------------*
     PERFORM 369-AFPETABL.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

*-------------------------------------------------------------*
* Calculate the amount of space taken up by the table.        *
*-------------------------------------------------------------*
     COMPUTE AFP-TABLE-DEPTH = AFP-TABLE-DEPTH +
                               TABLE-WHITE-SPACE.


/------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-HEADER-ROWS.                                       *
*                                                             *
*            Write the header row for the table.              *
*-------------------------------------------------------------*
 WRITE-HEADER-ROWS.
       MOVE ROW1 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.

*-------------------------------------------------------------*
* Write the first field in column 1.                          *
*-------------------------------------------------------------*
       MOVE FIELDH1 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.
       MOVE TIM12MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.


       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Date" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-UNDERLINE.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the second field in column 2.                         *
*-------------------------------------------------------------*
       MOVE FIELDH2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Transaction Description" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.


     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the third field in column 3.                          *
*-------------------------------------------------------------*
       MOVE FIELDH3 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE SPACES TO AFP-STRING-IN.
       MOVE "Amount" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.
/------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-TRANSACTIONS.                                      *
*                                                             *
*            Write a transaction row.                         *
*            Read another input data record.                  *
*-------------------------------------------------------------*

 WRITE-TRANSACTIONS.
     PERFORM WRITE-TRANSACTION-ROW.
*-------------------------------------------------------------*
*            If the end of the table was reached,             *
*            end this page, start a new page, and             *
*            write the transaction row that didn't fit.       *
*-------------------------------------------------------------*
     IF AFP-SEVERITY-CODE = WARNING
               PERFORM END-CUST-PAGE
               PERFORM WRITE-TRANSACTION-ROW.

     PERFORM READ-DATA.

/------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    WRITE-TRANSACTION-ROW.                                   *
*                                                             *
*            Begin a row.                                     *
*            Write the post date to the first field in the table*
*            Write the transaction description to the second  *
*                 field.                                      *
*            Write the transaction amount to the third field. *
*            End the row.                                     *
*-------------------------------------------------------------*
 WRITE-TRANSACTION-ROW.

       MOVE ROW2 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.
```

```
*-------------------------------------------------------------*
* Write the transaction date in column 1.                     *
*-------------------------------------------------------------*
       MOVE FIELDT1 TO AFP-FIELD-ID
     PERFORM 364-AFPBFLD

       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE POST-DATE-IN TO POST-DATE-OUT.
     CALL "TRIM" USING POST-DATE-OUT,
                    BY CONTENT LENGTH OF POST-DATE-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the transaction description in column 2.              *
*-------------------------------------------------------------*
       MOVE FIELDT2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING TRANSACTION-DESCRIPTION DELIMITED BY SIZE
           INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

       MOVE L-FT TO AFP-ALIGNMENT-OPTION.
       MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

*-------------------------------------------------------------*
* Write the transaction amount in column 3.                   *
*-------------------------------------------------------------*
       MOVE FIELDT3 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE TRANSACTION-AMOUNT-IN TO TRANSACTION-AMOUNT-OUT.
     CALL "TRIM" USING TRANSACTION-AMOUNT-OUT,
                    BY CONTENT LENGTH OF TRANSACTION-AMOUNT-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CHAR TO AFP-ALIGNMENT-OPTION.
       MOVE "." TO AFP-ALIGNMENT-CHAR.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.

/------------------------------------------------------------*
*------------------------------------------------------------*
*                                                            *
*    WRITE-SUMMARY-ROW.                                      *
*                                                            *
*            Write the customer summary row.                 *
*------------------------------------------------------------*
 WRITE-SUMMARY-ROW.

       MOVE ROW3 TO AFP-ROW-ID.
     PERFORM 363-AFPBROW.

       MOVE FIELDS1 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

       MOVE TIM12MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE "Total Amount" TO AFP-STRING-IN.
     CALL "TRIM" USING AFP-STRING-IN,
                    BY CONTENT LENGTH OF AFP-STRING-IN,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

       MOVE FIELDS2 TO AFP-FIELD-ID.
     PERFORM 364-AFPBFLD.

     CALL "TRIM" USING CUSTOMER-BALANCE-OUT,
                    BY CONTENT LENGTH OF CUSTOMER-BALANCE-OUT,
                    BY REFERENCE AFP-CHARACTER-STRING,
                    AFP-STRING-LENGTH.

       MOVE CHAR TO AFP-ALIGNMENT-OPTION.
     PERFORM 350-AFPPCHS.

     PERFORM 367-AFPEFLD.

     PERFORM 368-AFPEROW.


/------------------------------------------------------------*
*------------------------------------------------------------*
*                                                            *
*    CREATE-THE-FOOTER.                                      *
*                                                            *
*            Write the page footer.                          *
*------------------------------------------------------------*
 CREATE-THE-FOOTER.
       MOVE 108 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 270 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE TIM10MED TO AFP-FONT-ID.
     PERFORM 265-AFPSFONT.

       MOVE LOW-VALUES TO AFP-CHARACTER-STRING.
       STRING "Page " DELIMITED BY SIZE INTO AFP-CHARACTER-STRING.
       CALL "STRING-LENGTH" USING AFP-CHARACTER-STRING,
                    BY CONTENT LENGTH OF AFP-CHARACTER-STRING,
                    BY REFERENCE AFP-STRING-LENGTH.

     MOVE CENTER TO AFP-ALIGNMENT-OPTION.
     MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.

       MOVE NUM-CUSTOMER-PAGES TO NUM-CUSTOMER-PAGES-OUT.
     CALL "TRIM" USING NUM-CUSTOMER-PAGES-OUT,
                       BY CONTENT LENGTH OF
                          NUM-CUSTOMER-PAGES-OUT,
                       BY REFERENCE AFP-CHARACTER-STRING,
                       AFP-STRING-LENGTH.

     MOVE L-FT TO AFP-ALIGNMENT-OPTION.
     MOVE FALS TO AFP-POSITION-OPTION.
     PERFORM 350-AFPPCHS.
/------------------------------------------------------------*
*------------------------------------------------------------*
*                                                            *
*    END-CUST-PAGE.                                          *
*                                                            *
*            End the table.                                  *
*            Write the page footer.                          *
*            End the page.                                   *
*            Start a new page.                               *
*            Begin a table                                   *
*            Write the header rows                           *
*------------------------------------------------------------*
 END-CUST-PAGE.
     PERFORM 369-AFPETABL.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.
```

```
*****************************************************************
*           Write the footer.                                   *
*****************************************************************
     PERFORM CREATE-THE-FOOTER.

     PERFORM 480-AFPEPAGE.
```

Buffered-Output Modification

```
     PERFORM WRITE-BUF WITH TEST AFTER UNTIL AFP-MORE-RECORDS
                = FALS.
```

End of Buffered-Output Modification

```
*****************************************************************
*           Start a new page.                                   *
*****************************************************************
     ADD 1 TO NUM-CUSTOMER-PAGES.
       MOVE AFP-DEFAULT TO AFP-PAGE-WIDTH.
       MOVE AFP-DEFAULT TO AFP-PAGE-DEPTH.
     PERFORM 220-AFPBPAGE.
     MOVE AFP-PAGE-HANDLE TO AFP-CURRENT-HANDLE.

     PERFORM CREATE-THE-CONT-HEADER.

*---------------------------------------------------------------*
* Calculate the page body space as the page size less the       *
* continuation page header size and bottom margin.              *
*---------------------------------------------------------------*
     COMPUTE PAGE-BODY = AFP-DOC-PAGE-DEPTH - PAGE-HEADER-DEPTH -
          BOTTOM-MARGIN.

*---------------------------------------------------------------*
*           Begin a table                                       *
*---------------------------------------------------------------*
       MOVE 45 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE TABLE-WHITE-SPACE TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       COMPUTE AFP-MAX-TABLE-DEPTH = PAGE-BODY -
                                     TABLE-WHITE-SPACE.
       MOVE 125.0 TO AFP-TABLE-WIDTH.
       MOVE ORIENTO TO AFP-TABLE-ROTATION.
       MOVE 1.0 TO AFP-TOP-THICKNESS.
       MOVE .5 TO AFP-BOTTOM-THICKNESS.
       MOVE .5 TO AFP-LEFT-THICKNESS.
       MOVE .5 TO AFP-RIGHT-THICKNESS.
     PERFORM 362-AFPBTABL.
     MOVE AFP-TABLE-HANDLE TO AFP-CURRENT-HANDLE.

*---------------------------------------------------------------*
*           Write the header rows                               *
*---------------------------------------------------------------*
     PERFORM WRITE-HEADER-ROWS.

/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    CREATE THE HEADER FOR THE CONTINUATION PAGES               *
*                                                               *
*---------------------------------------------------------------*

 CREATE-THE-CONT-HEADER.

*---------------------------------------------------------------*
* Include the page segment                                      *
*---------------------------------------------------------------*
       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 23 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE "APQPSEG" TO AFP-PSEG-NAME.
       MOVE TRU TO AFP-INLINE-OPTION.
       MOVE FALS TO AFP-REUSE-OPTION.
     PERFORM 440-AFPIPSEG.

*---------------------------------------------------------------*
* Draw a rule underneath the page segment                       *
*---------------------------------------------------------------*
       MOVE 1.5 TO AFP-RULE-THICKNESS.
     PERFORM 290-AFPSRTHK.

       MOVE 29 TO AFP-X-COORDINATE.
       MOVE XABS TO AFP-X-REF-COORD-SYS.
       MOVE 50 TO AFP-Y-COORDINATE.
       MOVE YABS TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

       MOVE XDIRECTION TO AFP-DIRECTION.
       MOVE 158 TO AFP-RULE-LENGTH.
     PERFORM 310-AFPPRULE.

*---------------------------------------------------------------*
* Leave space after the rule                                    *
*---------------------------------------------------------------*
       MOVE 4 TO AFP-Y-COORDINATE.
       MOVE YREL TO AFP-Y-REF-COORD-SYS.
     PERFORM 270-AFPSPOS.

*---------------------------------------------------------------*
* Query the position and calculate the page header depth.       *
*---------------------------------------------------------------*
     PERFORM 275-AFPQPOS.
     MOVE AFP-Y-COORDINATE TO PAGE-HEADER-DEPTH.
/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    TERMINATE THE AFPAPI AND THE PROGRAM                      *
*                                                               *
*---------------------------------------------------------------*

 END-PROCESSING.
     PERFORM 490-AFPEDOC.
```

Buffered-Output Modification

```
     MOVE AFP-BUFFER-LENGTH TO AFP-BUFFER-LENGTH-REDEFINED.
     EXEC CICS WRITEQ TS QUEUE("APQSAMPB") FROM(AFP-BUFFER)
               LENGTH(AFP-BUFFER-LENGTH-HALFWORD) END-EXEC.
```

End of Buffered-Output Modification

```
     PERFORM 495-AFPTERM.

     COPY APQPERF.
     COPY APQSTRL.
     COPY APQTRIM.

 END PROGRAM APQCISMB.
```

Appendix A. COBOL Macros Used as Programming Interfaces

General-Use Programming Interfaces

The macros in this appendix are provided as programming interfaces for customers by AFP API.

Warning: Do not use as programming interfaces any AFP API macros other than those identified in this appendix.

End of General-Use Programming Interfaces

This appendix contains the following COBOL macros:

APQCONST	COBOL constants
APQRCS	COBOL return codes
APQVARS	COBOL variables
APQPERF	COBOL performs
APQSTRL	COBOL string length subprogram
APQTRIM	COBOL trim subprogram

APQCONST

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
* COPY BOOK --- APQCONST                                      *
*                                                             *
* This copy book contains the constants for the variables used  *
* by the AFP API.                                             *
*-------------------------------------------------------------*
*****************************************************
* The following value indicates that a default      *
* value is to be used for an AFP API parameter.     *
*****************************************************
 01 AFP-DEFAULT PIC S9(5)V9(4) BINARY VALUE IS -1.0.
*****************************************************
* The following value indicates that the document   *
* page orientation is to be used for a page.        *
* Specified on AFPBPAG (Begin Page).                *
*****************************************************
 01 ORIENTDOC     PIC 9(8)       BINARY VALUE IS 1.
*****************************************************
* Boolean values                                    *
*****************************************************
 01 TRU           PIC 9(8) BINARY VALUE IS 1.
 01 FALS          PIC 9(8) BINARY VALUE IS 0.
*****************************************************
* The input units of measurement for AFPSUNI and    *
* AFPBDOC (Set Units and Begin Document)            *
*****************************************************
 01 INCH       PIC 9(8) BINARY VALUE IS 1.
 01 MM         PIC 9(8) BINARY VALUE IS 2.
 01 CM         PIC 9(8) BINARY VALUE IS 3.
 01 U240       PIC 9(8) BINARY VALUE IS 4.
 01 U1440      PIC 9(8) BINARY VALUE IS 5.
*****************************************************
* The colors for AFPSCLR(Set Color)                 *
*****************************************************
 01 BLACK    PIC 9(8) BINARY VALUE IS 1.
 01 BLUE     PIC 9(8) BINARY VALUE IS 2.
 01 RED      PIC 9(8) BINARY VALUE IS 3.
 01 MAGENTA  PIC 9(8) BINARY VALUE IS 4.
 01 GREEN    PIC 9(8) BINARY VALUE IS 5.
 01 CYAN     PIC 9(8) BINARY VALUE IS 6.
 01 YELLOW   PIC 9(8) BINARY VALUE IS 7.
 01 BROWN    PIC 9(8) BINARY VALUE IS 8.
 01 MEDIA    PIC 9(8) BINARY VALUE IS 9.
*****************************************************
* The font weights for AFPDFNT(Define Font)         *
*****************************************************
 01 ULTRALIGHT  PIC 9(8) BINARY VALUE IS 1.
 01 EXTRALIGHT  PIC 9(8) BINARY VALUE IS 2.
 01 LIGHT       PIC 9(8) BINARY VALUE IS 3.
 01 SEMILIGHT   PIC 9(8) BINARY VALUE IS 4.
 01 MEDIUM      PIC 9(8) BINARY VALUE IS 5.
 01 SEMIBOLD    PIC 9(8) BINARY VALUE IS 6.
 01 BOLD        PIC 9(8) BINARY VALUE IS 7.
 01 EXTRABOLD   PIC 9(8) BINARY VALUE IS 8.
 01 ULTRABOLD   PIC 9(8) BINARY VALUE IS 9.
*****************************************************
* The font widths for AFPDFNT(Define Font)          *
*****************************************************
 01 ULTRACOND  PIC 9(8) BINARY VALUE IS 1.
 01 EXTRACOND  PIC 9(8) BINARY VALUE IS 2.
 01 CONDENSED  PIC 9(8) BINARY VALUE IS 3.
 01 SEMICOND   PIC 9(8) BINARY VALUE IS 4.
 01 NORMAL     PIC 9(8) BINARY VALUE IS 5.
 01 SEMIEXP    PIC 9(8) BINARY VALUE IS 6.
 01 EXPANDED   PIC 9(8) BINARY VALUE IS 7.
 01 EXTRAEXP   PIC 9(8) BINARY VALUE IS 8.
 01 ULTRAEXP   PIC 9(8) BINARY VALUE IS 9.
*****************************************************
* The font styles for AFPDFNT(Define Font)          *
*****************************************************
 01 ROMAN   PIC 9(8) BINARY VALUE IS 1.
 01 ITALIC  PIC 9(8) BINARY VALUE IS 2.
*****************************************************
* The string alignment values for AFPPCHS (Put      *
* Character String)                                 *
*****************************************************
 01 R-GHT       PIC 9(8) BINARY VALUE IS 1.
 01 L-FT        PIC 9(8) BINARY VALUE IS 2.
 01 CENTER      PIC 9(8) BINARY VALUE IS 3.
 01 CHAR        PIC 9(8) BINARY VALUE IS 4.
*****************************************************
* The format options for AFPBPAR and AFPDFLD        *
* (Begin Paragraph and Define Field)                *
*****************************************************
 01 FOLEFT         PIC 9(8) BINARY VALUE IS 1.
 01 FOCENTER       PIC 9(8) BINARY VALUE IS 2.
 01 FORIGHT        PIC 9(8) BINARY VALUE IS 3.
 01 FOJUSTIFY      PIC 9(8) BINARY VALUE IS 4.
*****************************************************
* The line directions for AFPPRUL (Put Rule)        *
*****************************************************
 01 XDIRECTION     PIC 9(8) BINARY VALUE IS 1.
 01 YDIRECTION     PIC 9(8) BINARY VALUE IS 2.
*****************************************************
* The Y Reference Coordinate systems for AFPSPOS    *
* (Set Position)                                    *
*****************************************************
 01 YABS           PIC 9(8) BINARY VALUE IS 1.
 01 YREL           PIC 9(8) BINARY VALUE IS 2.
 01 YLINES         PIC 9(8) BINARY VALUE IS 3.
*****************************************************
* The X Reference Coordinate systems for AFPSPOS    *
* (Set Position)                                    *
*****************************************************
 01 XABS           PIC 9(8) BINARY VALUE IS 1.
 01 XREL           PIC 9(8) BINARY VALUE IS 2.
*****************************************************
* The shading patterns                              *
*****************************************************
 01 STNDARD        PIC 9(8) BINARY VALUE IS 1.
 01 SCREEN         PIC 9(8) BINARY VALUE IS 2.
 01 NOSHADE        PIC 9(8) BINARY VALUE IS 3.
*****************************************************
* The page orientations for AFPBDOC and AFPBPAG     *
* (Begin Document and Begin Page)                   *
*****************************************************
 01 ORIENT0        PIC 9(8) BINARY VALUE IS 0.
 01 ORIENT90       PIC 9(8) BINARY VALUE IS 90.
 01 ORIENT180      PIC 9(8) BINARY VALUE IS 180.
 01 ORIENT270      PIC 9(8) BINARY VALUE IS 270.
*****************************************************
* The font, area, table, and object rotations for   *
* AFPDFNT, AFPPARE, AFPBTBL, and AFPIOBJ            *
* (Define Font, Put Area, Begin Table, and Include  *
*  Object)                                          *
*****************************************************
 01 ROTATE0        PIC 9(8) BINARY VALUE IS 0.
 01 ROTATE90       PIC 9(8) BINARY VALUE IS 90.
 01 ROTATE180      PIC 9(8) BINARY VALUE IS 180.
 01 ROTATE270      PIC 9(8) BINARY VALUE IS 270.
 01 ROTATE-DEFAULT PIC 9(8) BINARY VALUE IS 1.
*****************************************************
* The text orientation for AFPDFLD (Define Field)   *
*****************************************************
 01 TXTOR0-0       PIC 9(8) BINARY VALUE IS 0.
 01 TXTOR90-180    PIC 9(8) BINARY VALUE IS 90.
 01 TXTOR180-270   PIC 9(8) BINARY VALUE IS 180.
 01 TXTOR270-0     PIC 9(8) BINARY VALUE IS 270.
*****************************************************
* The vertical alignment for AFPDFLD (Define Field) *
*****************************************************
 01 VERTOP         PIC 9(8) BINARY VALUE IS 1.
 01 VERCENTER      PIC 9(8) BINARY VALUE IS 2.
 01 VERBOTTOM      PIC 9(8) BINARY VALUE IS 3.
```

```
************************************************
* The object mapping options for AFPIOBJ       *
* (Include Object)                             *
************************************************
 01 DEFAULT-MAP       PIC 9(8) BINARY VALUE IS 1.
 01 SCALE-TO-FIT      PIC 9(8) BINARY VALUE IS 2.
 01 CENTER-AND-TRIM   PIC 9(8) BINARY VALUE IS 3.
 01 POSITION-AND-TRIM PIC 9(8) BINARY VALUE IS 4.
 01 POINT-TO-PEL      PIC 9(8) BINARY VALUE IS 5.
 01 DOUBLE-DOT        PIC 9(8) BINARY VALUE IS 6.
```

```
************************************************
* The following value indicates that the AFP API    *
* should write its output to memory instead of to   *
* a file (data set).                                *
* Specified on AFPSOUT (Set Output Characteristics).*
************************************************
 01 BUFFERED          PIC X(8) VALUE IS "@#$VMav)".
 01 DISCBUFF          PIC X(8) VALUE IS "@#$VJls)".
************************************************
* The severity codes returned by any AFP API call   *
************************************************
 01 NOERROR        PIC 9(8) BINARY VALUE IS 0.
 01 WARNING        PIC 9(8) BINARY VALUE IS 4.
 01 ERRER          PIC 9(8) BINARY VALUE IS 8.
 01 SEVERE         PIC 9(8) BINARY VALUE IS 12.
 01 FATAL          PIC 9(8) BINARY VALUE IS 16.
```

APQRCS

```
/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
* COPY BOOK --- APQRCS                                          *
*                                                               *
* This copy book contains the return codes generated by the     *
* AFP API.                                                      *
*---------------------------------------------------------------*
 01 AFP-RETURN-CODES.
     03 ER-FAIL        PIC 9(8) BINARY VALUE IS 1.
     03 ER-QATTS       PIC 9(8) BINARY VALUE IS 2.
     03 ER-NOATTS      PIC 9(8) BINARY VALUE IS 3.
     03 ER-TERM        PIC 9(8) BINARY VALUE IS 4.
     03 ER-NOTFOUND    PIC 9(8) BINARY VALUE IS 5.
     03 ER-SETOUT      PIC 9(8) BINARY VALUE IS 6.
     03 ER-NOTENDED    PIC 9(8) BINARY VALUE IS 7.
     03 ER-DOCEXISTS   PIC 9(8) BINARY VALUE IS 8.
     03 ER-PAGEXISTS   PIC 9(8) BINARY VALUE IS 9.
     03 ER-END         PIC 9(8) BINARY VALUE IS 11.
     03 ER-MBAREA      PIC 9(8) BINARY VALUE IS 12.
     03 ER-IVLTHICK    PIC 9(8) BINARY VALUE IS 13.
     03 ER-IVTYPE      PIC 9(8) BINARY VALUE IS 14.
     03 ER-BLKTYPE     PIC 9(8) BINARY VALUE IS 15.
     03 ER-IVCOLOR     PIC 9(8) BINARY VALUE IS 16.
     03 ER-IVUNITS     PIC 9(8) BINARY VALUE IS 17.
     03 ER-IVROTATE    PIC 9(8) BINARY VALUE IS 18.
     03 ER-IVNUMROWS   PIC 9(8) BINARY VALUE IS 19.
     03 ER-IVALIGN     PIC 9(8) BINARY VALUE IS 20.
     03 ER-DPARENT     PIC 9(8) BINARY VALUE IS 21.
     03 ER-PPARENT     PIC 9(8) BINARY VALUE IS 22.
     03 ER-APARENT     PIC 9(8) BINARY VALUE IS 23.
     03 ER-NOCURSOR    PIC 9(8) BINARY VALUE IS 24.
     03 ER-IVFONTID    PIC 9(8) BINARY VALUE IS 25.
     03 ER-IVBLOCK     PIC 9(8) BINARY VALUE IS 26.
     03 ER-IVCONTROL   PIC 9(8) BINARY VALUE IS 27.
     03 ER-BACK        PIC 9(8) BINARY VALUE IS 28.
     03 ER-NEGATIVE    PIC 9(8) BINARY VALUE IS 29.
     03 ER-IVCSPACEP   PIC 9(8) BINARY VALUE IS 30.
     03 ER-BLKMEM      PIC 9(8) BINARY VALUE IS 31.
     03 ER-IVDATAS     PIC 9(8) BINARY VALUE IS 33.
     03 ER-IVWSPACE    PIC 9(8) BINARY VALUE IS 34.
     03 ER-OVERFLOW    PIC 9(8) BINARY VALUE IS 35.
     03 ER-NULLPTR     PIC 9(8) BINARY VALUE IS 36.
     03 ER-NULLCONTROL PIC 9(8) BINARY VALUE IS 37.
     03 ER-NOTINIT     PIC 9(8) BINARY VALUE IS 38.
     03 ER-NOTSTRT     PIC 9(8) BINARY VALUE IS 39.
     03 ER-NOTACST     PIC 9(8) BINARY VALUE IS 40.
     03 ER-NOTACT      PIC 9(8) BINARY VALUE IS 41.
     03 ER-NOTACT-MOV  PIC 9(8) BINARY VALUE IS 42.
     03 ER-NOTACT-PUT  PIC 9(8) BINARY VALUE IS 43.
     03 ER-NOTEND      PIC 9(8) BINARY VALUE IS 44.
     03 ER-ATTSMEM     PIC 9(8) BINARY VALUE IS 45.
     03 ER-NOATTPTR    PIC 9(8) BINARY VALUE IS 46.
     03 ER-IVOUTDS     PIC 9(8) BINARY VALUE IS 47.
     03 ER-DCFMEM      PIC 9(8) BINARY VALUE IS 48.
     03 ER-APPLMEM     PIC 9(8) BINARY VALUE IS 49.
     03 ER-AREAMEM     PIC 9(8) BINARY VALUE IS 50.
     03 ER-PUTSTR      PIC 9(8) BINARY VALUE IS 51.
     03 ER-DCFFENV     PIC 9(8) BINARY VALUE IS 52.
     03 ER-PUTAREA     PIC 9(8) BINARY VALUE IS 53.
     03 ER-IVAREAROT   PIC 9(8) BINARY VALUE IS 54.
     03 ER-NOTACT-PUTA PIC 9(8) BINARY VALUE IS 55.
     03 ER-SETFONT     PIC 9(8) BINARY VALUE IS 56.
     03 ER-SETCSPAC    PIC 9(8) BINARY VALUE IS 57.
     03 ER-SETLTHCK    PIC 9(8) BINARY VALUE IS 58.
     03 ER-IVYREF      PIC 9(8) BINARY VALUE IS 59.
     03 ER-NOFONTPTR   PIC 9(8) BINARY VALUE IS 60.
     03 ER-FONTMEM     PIC 9(8) BINARY VALUE IS 61.
     03 ER-FONTATSMEM  PIC 9(8) BINARY VALUE IS 62.
     03 ER-FONTNOTFND  PIC 9(8) BINARY VALUE IS 63.
     03 ER-NOTACT-DEF  PIC 9(8) BINARY VALUE IS 64.
     03 ER-NOTACT-SET  PIC 9(8) BINARY VALUE IS 65.
     03 ER-PUTLINE     PIC 9(8) BINARY VALUE IS 66.
     03 ER-IVDIRECTION PIC 9(8) BINARY VALUE IS 67.
     03 ER-DCFPOS      PIC 9(8) BINARY VALUE IS 68.
     03 ER-NOTACT-INC  PIC 9(8) BINARY VALUE IS 69.
     03 ER-INCOVLY     PIC 9(8) BINARY VALUE IS 70.
     03 ER-AREANOTFND  PIC 9(8) BINARY VALUE IS 71.
     03 ER-MARG-OVERF  PIC 9(8) BINARY VALUE IS 72.
     03 ER-IVFMODE     PIC 9(8) BINARY VALUE IS 73.
     03 ER-IVCODEPG    PIC 9(8) BINARY VALUE IS 74.
     03 ER-IVDESCNM    PIC 9(8) BINARY VALUE IS 75.
     03 ER-IVPTSIZE    PIC 9(8) BINARY VALUE IS 76.
     03 ER-IVWEIGHT    PIC 9(8) BINARY VALUE IS 77.
     03 ER-IVWIDTH     PIC 9(8) BINARY VALUE IS 78.
     03 ER-IVFONTROT   PIC 9(8) BINARY VALUE IS 79.
     03 ER-IVSTYLE     PIC 9(8) BINARY VALUE IS 80.
     03 ER-NOTACT-INCPS PIC 9(8) BINARY VALUE IS 81.
     03 ER-NOTACT-PUTL  PIC 9(8) BINARY VALUE IS 82.
     03 ER-SETCOLOR    PIC 9(8) BINARY VALUE IS 83.
     03 ER-SETPGOR     PIC 9(8) BINARY VALUE IS 84.
     03 ER-SETUNITS    PIC 9(8) BINARY VALUE IS 85.
     03 ER-SETWORDSP   PIC 9(8) BINARY VALUE IS 86.
     03 ER-DEFFIELD    PIC 9(8) BINARY VALUE IS 87.
     03 ER-DEFFONT     PIC 9(8) BINARY VALUE IS 88.
     03 ER-DEFROW      PIC 9(8) BINARY VALUE IS 89.
     03 ER-NOROWPTR    PIC 9(8) BINARY VALUE IS 90.
     03 ER-ROWMEM      PIC 9(8) BINARY VALUE IS 91.
     03 ER-NOFLDPTR    PIC 9(8) BINARY VALUE IS 92.
     03 ER-FLDMEM      PIC 9(8) BINARY VALUE IS 93.
     03 ER-IVHOR       PIC 9(8) BINARY VALUE IS 94.
     03 ER-IVVER       PIC 9(8) BINARY VALUE IS 95.
     03 ER-IVSHADE     PIC 9(8) BINARY VALUE IS 96.
     03 ER-IVSHINT     PIC 9(8) BINARY VALUE IS 97.
     03 ER-IVFLDOR     PIC 9(8) BINARY VALUE IS 98.
     03 ER-IVFLDFR     PIC 9(8) BINARY VALUE IS 99.
     03 ER-IVARSHADE   PIC 9(8) BINARY VALUE IS 100.
     03 ER-IVARSHINT   PIC 9(8) BINARY VALUE IS 101.
     03 ER-IVDEPTH     PIC 9(8) BINARY VALUE IS 102.
     03 ER-IVROWFR     PIC 9(8) BINARY VALUE IS 103.
     03 ER-FLDATSMEM   PIC 9(8) BINARY VALUE IS 104.
     03 ER-ROWATSMEM   PIC 9(8) BINARY VALUE IS 105.
     03 ER-CREATETABLE PIC 9(8) BINARY VALUE IS 106.
     03 ER-IVTABLEROT  PIC 9(8) BINARY VALUE IS 107.
     03 ER-IVTBLRGHT   PIC 9(8) BINARY VALUE IS 108.
     03 ER-ROWNOTFND   PIC 9(8) BINARY VALUE IS 110.
     03 ER-FIELDNOTFND PIC 9(8) BINARY VALUE IS 111.
     03 ER-NOTACT-PUTF PIC 9(8) BINARY VALUE IS 112.
     03 ER-IVNUMCOLS   PIC 9(8) BINARY VALUE IS 113.
     03 ER-NOTACT-OUT  PIC 9(8) BINARY VALUE IS 114.
     03 ER-IVDDNAME    PIC 9(8) BINARY VALUE IS 115.
     03 ER-IVTABLDEP   PIC 9(8) BINARY VALUE IS 116.
     03 ER-NOTACT-SETCOL PIC 9(8) BINARY VALUE IS 117.
     03 ER-IVLMAR      PIC 9(8) BINARY VALUE IS 118.
     03 ER-IVLINESP    PIC 9(8) BINARY VALUE IS 119.
     03 ER-IVRMAR      PIC 9(8) BINARY VALUE IS 120.
     03 ER-IVFORMAT    PIC 9(8) BINARY VALUE IS 121.
     03 ER-IVBXSHADE   PIC 9(8) BINARY VALUE IS 122.
     03 ER-IVBXSHINT   PIC 9(8) BINARY VALUE IS 123.
     03 ER-PUTBOX      PIC 9(8) BINARY VALUE IS 124.
     03 ER-IVPGWID     PIC 9(8) BINARY VALUE IS 125.
     03 ER-IVPGDEP     PIC 9(8) BINARY VALUE IS 126.
     03 ER-IVSTRLEN    PIC 9(8) BINARY VALUE IS 127.
     03 ER-CREATEPARA  PIC 9(8) BINARY VALUE IS 129.
     03 ER-IVPRSHADE   PIC 9(8) BINARY VALUE IS 130.
     03 ER-IVPRSHINT   PIC 9(8) BINARY VALUE IS 131.
     03 ER-INULLPTR    PIC 9(8) BINARY VALUE IS 132.
     03 ER-IVPARAFORM  PIC 9(8) BINARY VALUE IS 133.
     03 ER-NOTACT-PUTD PIC 9(8) BINARY VALUE IS 134.
     03 ER-NOTACT-SBOX PIC 9(8) BINARY VALUE IS 135.
     03 ER-IVAREAWID   PIC 9(8) BINARY VALUE IS 136.
     03 ER-IVAREALEN   PIC 9(8) BINARY VALUE IS 137.
     03 ER-IVXPOS      PIC 9(8) BINARY VALUE IS 138.
     03 ER-IVYPOS      PIC 9(8) BINARY VALUE IS 139.
     03 ER-IVTHICK     PIC 9(8) BINARY VALUE IS 140.
     03 ER-IVSPACE     PIC 9(8) BINARY VALUE IS 141.
     03 ER-IVXREF      PIC 9(8) BINARY VALUE IS 142.
     03 ER-IVDESCLEN   PIC 9(8) BINARY VALUE IS 143.
     03 ER-IVPARAOFF   PIC 9(8) BINARY VALUE IS 144.
     03 ER-IVPARAMAR   PIC 9(8) BINARY VALUE IS 145.
     03 ER-IVPARALEN   PIC 9(8) BINARY VALUE IS 146.
     03 ER-IVPARALSP   PIC 9(8) BINARY VALUE IS 147.
     03 ER-IVPARALOF   PIC 9(8) BINARY VALUE IS 148.
     03 ER-IVPARABOF   PIC 9(8) BINARY VALUE IS 149.
     03 ER-PARAEXISTS  PIC 9(8) BINARY VALUE IS 150.
     03 ER-IVFONT      PIC 9(8) BINARY VALUE IS 151.
     03 ER-IVROWID     PIC 9(8) BINARY VALUE IS 152.
     03 ER-TABLEXISTS  PIC 9(8) BINARY VALUE IS 153.
     03 ER-BEGINROW    PIC 9(8) BINARY VALUE IS 154.
     03 ER-ENDTABLE    PIC 9(8) BINARY VALUE IS 155.
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03 ER-BEGINFLD    PIC 9(8) BINARY VALUE IS 156.
03 ER-NOTACT-SFLD PIC 9(8) BINARY VALUE IS 157.
03 ER-NOTACT-EFLD PIC 9(8) BINARY VALUE IS 158.
03 ER-NOTACT-SROW PIC 9(8) BINARY VALUE IS 159.
03 ER-NOTACT-EROW PIC 9(8) BINARY VALUE IS 160.
03 ER-NOTACT-ETBL PIC 9(8) BINARY VALUE IS 161.
03 ER-NOTACT-EPAR PIC 9(8) BINARY VALUE IS 162.
03 ER-ENDFLD      PIC 9(8) BINARY VALUE IS 163.
03 ER-ENDROW      PIC 9(8) BINARY VALUE IS 164.
03 ER-ENDPARA     PIC 9(8) BINARY VALUE IS 165.
03 ER-IVPARADEP   PIC 9(8) BINARY VALUE IS 166.
03 ER-IVBOXWIDTH  PIC 9(8) BINARY VALUE IS 167.
03 ER-IVBOXDEPTH  PIC 9(8) BINARY VALUE IS 168.
03 ER-IVRULELEN   PIC 9(8) BINARY VALUE IS 169.
03 ER-IVTBLTOP    PIC 9(8) BINARY VALUE IS 170.
03 ER-IVTBLBOT    PIC 9(8) BINARY VALUE IS 171.
03 ER-IVTBLLFT    PIC 9(8) BINARY VALUE IS 172.
03 ER-IVFLDBOT    PIC 9(8) BINARY VALUE IS 173.
03 ER-IVFLDLFT    PIC 9(8) BINARY VALUE IS 174.
03 ER-IVFLDRGHT   PIC 9(8) BINARY VALUE IS 175.
03 ER-IVCOLWID    PIC 9(8) BINARY VALUE IS 176.
03 ER-FONTDEFS    PIC 9(8) BINARY VALUE IS 177.
03 ER-ENDPAGE     PIC 9(8) BINARY VALUE IS 178.
03 ER-ENDDOC      PIC 9(8) BINARY VALUE IS 179.
03 ER-INCPSEG     PIC 9(8) BINARY VALUE IS 180.
03 ER-IVUNITP     PIC 9(8) BINARY VALUE IS 181.
03 ER-IVXPOSP     PIC 9(8) BINARY VALUE IS 182.
03 ER-IVYPOSP     PIC 9(8) BINARY VALUE IS 183.
03 ER-IVCOLORP    PIC 9(8) BINARY VALUE IS 184.
03 ER-IVINLINE    PIC 9(8) BINARY VALUE IS 185.
03 ER-IVBLKP      PIC 9(8) BINARY VALUE IS 186.
03 ER-IVCSPACE    PIC 9(8) BINARY VALUE IS 187.
03 ER-NOTACT-SETWSP
             PIC 9(8) BINARY VALUE IS 188.
03 ER-NOTACT-SETISP
             PIC 9(8) BINARY VALUE IS 189.
03 ER-PUTTEXT     PIC 9(8) BINARY VALUE IS 190.
03 ER-IVPARAIND   PIC 9(8) BINARY VALUE IS 191.
03 ER-INVMM       PIC 9(8) BINARY VALUE IS 192.
03 ER-NOTACT-INVMM
             PIC 9(8) BINARY VALUE IS 193.
03 ER-IVROWDEP    PIC 9(8) BINARY VALUE IS 194.
03 ER-NOTACT-SLIBS
             PIC 9(8) BINARY VALUE IS 195.
03 ER-SETLIBS     PIC 9(8) BINARY VALUE IS 196.
03 ER-IVPSEGLIB   PIC 9(8) BINARY VALUE IS 197.
03 ER-IVOBJLIB    PIC 9(8) BINARY VALUE IS 198.
03 ER-IVFONTLIB   PIC 9(8) BINARY VALUE IS 199.
03 ER-NO-STORAGE  PIC 9(8) BINARY VALUE IS 200.
03 ER-READ-LIB    PIC 9(8) BINARY VALUE IS 201.
03 ER-TOO-WIDE    PIC 9(8) BINARY VALUE IS 202.
03 ER-NO-SHADE    PIC 9(8) BINARY VALUE IS 203.
03 ER-IVREQUEST   PIC 9(8) BINARY VALUE IS 204.
03 ER-QFONT-NOTFOUND
             PIC 9(8) BINARY VALUE IS 206.
03 ER-END-OF-PAGE PIC 9(8) BINARY VALUE IS 207.
03 ER-NO-FORMATTER-HANDLE
             PIC 9(8) BINARY VALUE IS 208.
03 ER-ROW-TOO-DEEP
             PIC 9(8) BINARY VALUE IS 209.
03 ER-WRITE-OUTPUT
             PIC 9(8) BINARY VALUE IS 210.
03 ER-TOO-BIG     PIC 9(8) BINARY VALUE IS 211.
03 ER-FONTINDEX   PIC 9(8) BINARY VALUE IS 212.
03 ER-DEPTH-EXCEEDED
             PIC 9(8) BINARY VALUE IS 213.
03 ER-STARTFONT   PIC 9(8) BINARY VALUE IS 214.
03 ER-NO-DEFINITION
             PIC 9(8) BINARY VALUE IS 215.
03 ER-NO-OBJECT   PIC 9(8) BINARY VALUE IS 216.
03 ER-INVFONT     PIC 9(8) BINARY VALUE IS 217.
03 ER-CODEPAGE    PIC 9(8) BINARY VALUE IS 218.
03 ER-OFF-PAGE    PIC 9(8) BINARY VALUE IS 219.
03 ER-FONTSIZE    PIC 9(8) BINARY VALUE IS 220.
03 ER-AREA-OFF-PAGE
             PIC 9(8) BINARY VALUE IS 221.
03 ER-INVPSEG     PIC 9(8) BINARY VALUE IS 222.
03 ER-LOADMOD     PIC 9(8) BINARY VALUE IS 223.
03 ER-REPLACE     PIC 9(8) BINARY VALUE IS 224.
03 ER-FIELDNDEF   PIC 9(8) BINARY VALUE IS 225.
03 ER-NESTGRPS    PIC 9(8) BINARY VALUE IS 226.
03 ER-NOBEGGRP    PIC 9(8) BINARY VALUE IS 227.
03 ER-NOACTGRP    PIC 9(8) BINARY VALUE IS 228.
03 ER-INVSUBROW   PIC 9(8) BINARY VALUE IS 229.
03 ER-INCOBJ      PIC 9(8) BINARY VALUE IS 260.
03 ER-TRACE       PIC 9(8) BINARY VALUE IS 261.
03 ER-IVOBJWIDTH  PIC 9(8) BINARY VALUE IS 262.
03 ER-IVOBJDEPTH  PIC 9(8) BINARY VALUE IS 263.
03 ER-IVOBJROT    PIC 9(8) BINARY VALUE IS 264.
03 ER-IVOBJMAP    PIC 9(8) BINARY VALUE IS 265.
03 ER-IVOBJXPOS   PIC 9(8) BINARY VALUE IS 266.
03 ER-IVOBJYPOS   PIC 9(8) BINARY VALUE IS 267.
03 ER-NOTACT-INCOBJ
             PIC 9(8) BINARY VALUE IS 268.
03 ER-BEGGRP      PIC 9(8) BINARY VALUE IS 269.
03 ER-IVGRPNAME   PIC 9(8) BINARY VALUE IS 270.
03 ER-ENDGRP      PIC 9(8) BINARY VALUE IS 271.
03 ER-PUTTAG      PIC 9(8) BINARY VALUE IS 272.
03 ER-IVTAGNAME   PIC 9(8) BINARY VALUE IS 273.
03 ER-IVTAGVALUE  PIC 9(8) BINARY VALUE IS 274.
03 ER-NOTACT-BGRP PIC 9(8) BINARY VALUE IS 275.
03 ER-NOTACT-EGRP PIC 9(8) BINARY VALUE IS 276.
03 ER-NOTACT-PTAG PIC 9(8) BINARY VALUE IS 277.
03 ER-ABORT       PIC 9(8) BINARY VALUE IS 278.
03 ER-TERMINATE   PIC 9(8) BINARY VALUE IS 278.
03 ER-LINELEN-OVERF
             PIC 9(8) BINARY VALUE IS 279.
03 ER-GETOUT      PIC 9(8) BINARY VALUE IS 280.
03 ER-NOTACT-GBUF PIC 9(8) BINARY VALUE IS 281.
03 ER-IVBUFFER    PIC 9(8) BINARY VALUE IS 282.
03 ER-QSTR        PIC 9(8) BINARY VALUE IS 284.
03 ER-QSTR-IVSTRLEN
             PIC 9(8) BINARY VALUE IS 285.
03 ER-FORMATTER-ABEND
             PIC 9(8) BINARY VALUE IS 255.
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APQVARS

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/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
* COPY BOOK --- APQVARS                                         *
*                                                               *
* This copy book contains the variables used by the AFP API.    *
*---------------------------------------------------------------*
 01  AFP-ERROR-DATA.
     03  AFP-ERRDATA                 PIC X(25) VALUE SPACES.
 01  AFP-STRING-VARIABLES.
     03  AFP-STRING-IN               PIC X(160) VALUE SPACES.
 01  AFP-WORKING-VARIABLES.
     03  AFP-TEMP-SEVERITY-CODE      PIC 9(8) BINARY VALUE 0.
 01  AFP-VARIABLES.
     03  AFP-MISC-VARS.
         05  AFP-CURRENT-HANDLE      PIC 9(8) BINARY VALUE 0.
         05  AFP-RET-CODE            PIC 9(8) BINARY VALUE 0.
         05  AFP-SEVERITY-CODE       PIC 9(8) BINARY VALUE 0.
         05  AFP-RET-CODE-DISPLAY    PIC 9(8) DISPLAY VALUE 0.
         05  AFP-SEVERITY-CODE-DISPLAY PIC 9(8) DISPLAY VALUE 0.

     03 AFP-MSG4                     PIC X(13)
                     VALUE "AFPAPI Failed".
     03 AFP-MSG5                     PIC X(19)
                     VALUE "AFPAPI Return Code:".
     03 AFP-MSG6                     PIC X(21)
                     VALUE "AFPAPI Severity Code:".
     03  AFP-SHADING-VARS.
         05  AFP-SHADING-PATTERN     PIC 9(8) BINARY VALUE 0.
         05  AFP-SHADING-INTENSITY   PIC 9(8) BINARY VALUE 0.
     03  AFPBDOC-VAR.
         05  AFP-UNIT-OF-MEASURE     PIC 9(8) BINARY VALUE 0.
         05  AFP-DOC-PAGE-WIDTH      PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-DOC-PAGE-DEPTH      PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-PAGE-ORIENTATION    PIC 9(8) BINARY VALUE 0.
         05  AFP-DOCUMENT-HANDLE     PIC 9(8) BINARY VALUE 0.
     03  AFPBGRP-VAR.
         05  AFP-GROUP-NAME          PIC X(64) VALUE SPACES.
     03  AFPBPAG-VAR.
         05  AFP-PAGE-WIDTH          PIC S9(5)V9(4) BINARY
                                     VALUE 0.
         05  AFP-PAGE-DEPTH          PIC S9(5)V9(4) BINARY
                                     VALUE 0.
         05  AFP-PAGE-HANDLE         PIC 9(8) BINARY VALUE 0.
     03  AFPBPAR-VAR.
         05  AFP-FIRST-LINE-INDENT   PIC S9(5)V9(4) BINARY
                                     VALUE 0.
         05  AFP-FORMAT-OPTION       PIC 9(8) BINARY VALUE 0.
         05  AFP-FIRST-LINE-OFFSET   PIC S9(5)V9(4) BINARY
                                     VALUE 0.
         05  AFP-LEFT-MARGIN         PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-LINE-LENGTH         PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-LINE-SPACING        PIC S9(5)V9(4) BINARY
                                     VALUE 0.
         05  AFP-PARAGRAPH-FRAME     PIC 9(8) BINARY VALUE 0.
         05  AFP-RT-RULE-OFFSET      PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-BOT-RULE-OFFSET     PIC S9(5)V9(4) BINARY
                                     VALUE 0.
         05  AFP-PARAGRAPH-HANDLE    PIC 9(8) BINARY VALUE 0.
     03  AFPBTBL-VAR.
         05  AFP-TABLE-WIDTH         PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-MAX-TABLE-DEPTH     PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-TABLE-ROTATION      PIC 9(8) BINARY VALUE 0.
         05  AFP-TABLE-HANDLE        PIC 9(8) BINARY VALUE 0.
     03  AFPCARE-VAR.
         05  AFP-AREA-WIDTH          PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-MAX-AREA-DEPTH      PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-AREA-FRAME          PIC 9(8) BINARY VALUE 0.
         05  AFP-AREA-HANDLE         PIC 9(8) BINARY VALUE 0.
     03  AFPDFLD-VAR.
         05  AFP-ALIGNMENT-POSITION  PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-VERTICAL-FORMAT     PIC 9(8) BINARY VALUE 0.
         05  AFP-RIGHT-MARGIN        PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-TEXT-ORIENTATION    PIC 9(8) BINARY VALUE 0.
         05  AFP-TOP-THICKNESS       PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-BOTTOM-THICKNESS    PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-LEFT-THICKNESS      PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-RIGHT-THICKNESS     PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-FIELD-ID            PIC 9(8) BINARY VALUE 0.
     03  AFPDFNT-VAR.
         05  AFP-CODE-PAGE           PIC X(8) VALUE SPACES.
         05  AFP-DESC-NAME-LENGTH    PIC 9(8) BINARY VALUE 0.
         05  AFP-DESCRIPTIVE-NAME    PIC X(32) VALUE SPACES.
         05  AFP-POINT-SIZE          PIC 9(8) BINARY VALUE 0.
         05  AFP-WEIGHT              PIC 9(8) BINARY VALUE 0.
         05  AFP-FONT-WIDTH          PIC 9(8) BINARY VALUE 0.
         05  AFP-ROTATION            PIC 9(8) BINARY VALUE 0.
         05  AFP-STYLE               PIC 9(8) BINARY VALUE 0.
         05  AFP-FONT-ID             PIC X(9) VALUE SPACES.
     03  AFPDROW-VAR.
         05  AFP-NUMBER-COLUMNS      PIC 9(8) BINARY VALUE 1.
         05  AFP-NUMBER-SUBROWS      PIC 9(8) BINARY VALUE 1.
         05  AFP-ROW-ID              PIC X(9) VALUE SPACES.
     03  AFPEARE-VAR.
         05  AFP-AREA-DEPTH          PIC 9(5)V9(4) BINARY VALUE 0.
     03  AFPEPAR-VAR.
         05  AFP-PARAGRAPH-DEPTH     PIC 9(5)V9(4) BINARY VALUE 0.
     03  AFPEROW-VAR.
         05  AFP-CURRENT-TABLE-DEPTH PIC 9(5)V9(4) BINARY VALUE 0.
     03  AFPETBL-VAR.
         05  AFP-TABLE-DEPTH         PIC 9(5)V9(4) BINARY VALUE 0.
     03  AFPGBUF-VAR.
         05  AFP-BUFFER              PIC X(8205) VALUE SPACES.
         05  AFP-BUFFER-LENGTH       PIC 9(8) BINARY VALUE 0.
         05  AFP-MORE-RECORDS        PIC 9(8) BINARY VALUE 0.
     03  AFPINIT-VAR.
         05  AFPAPI-HANDLE           PIC 9(8) BINARY VALUE 0.
         05  AFP-TRACE               PIC 9(8) BINARY VALUE 0.
     03  AFPINVM-VAR.
         05  AFP-MEDIUM-MAP-NAME     PIC X(8) VALUE SPACES.
     03  AFPIOBJ-VAR.
         05  AFP-OBJECT-NAME         PIC X(8) VALUE SPACES.
         05  AFP-OBJECT-WIDTH        PIC S9(5)V9(4) BINARY
                                     VALUE 0.
         05  AFP-OBJECT-DEPTH        PIC S9(5)V9(4) BINARY
                                     VALUE 0.
         05  AFP-OBJECT-ROTATION     PIC 9(8) BINARY VALUE 0.
         05  AFP-OBJECT-MAPPING-OPTION   PIC 9(8) BINARY VALUE 0.
         05  AFP-OBJECT-X-OFFSET     PIC S9(5)V9(4) BINARY
                                     VALUE 0.
         05  AFP-OBJECT-Y-OFFSET     PIC S9(5)V9(4) BINARY
                                     VALUE 0.
     03  AFPIOVL-VAR.
         05  AFP-OVLY-NAME           PIC X(8) VALUE SPACES.
     03  AFPIPSG-VAR.
         05  AFP-PSEG-NAME           PIC X(8) VALUE SPACES.
         05  AFP-INLINE-OPTION       PIC 9(8) BINARY VALUE 0.
         05  AFP-REUSE-OPTION        PIC 9(8) BINARY VALUE 0.
     03  AFPPARE-VAR.
         05  AFP-AREA-ROTATION       PIC 9(8) BINARY VALUE 0.
     03  AFPPBOX-VAR.
         05  AFP-BOX-WIDTH           PIC 9(5)V9(4) BINARY VALUE 0.
         05  AFP-BOX-DEPTH           PIC 9(5)V9(4) BINARY VALUE 0.
     03  AFPPCHS-VAR.
         05  AFP-STRING-LENGTH       PIC 9(8) BINARY VALUE 0.
         05  AFP-CHARACTER-STRING    PIC X(160) VALUE SPACES.
         05  AFP-ALIGNMENT-OPTION    PIC 9(8) BINARY VALUE 0.
         05  AFP-ALIGNMENT-CHAR      PIC X VALUE SPACE.
         05  AFP-POSITION-OPTION     PIC 9(8) BINARY VALUE 0.
         05  AFP-UNDERLINE           PIC 9(8) BINARY VALUE 0.
     03  AFPPRUL-VAR.
         05  AFP-DIRECTION           PIC 9(8) BINARY VALUE 0.
         05  AFP-RULE-LENGTH         PIC 9(5)V9(4) BINARY VALUE 0.
     03  AFPPTAG-VAR.
         05  AFP-TAG-NAME            PIC X(64) VALUE SPACES.
         05  AFP-TAG-VALUE           PIC X(64) VALUE SPACES.
     03  AFPPTXT-VAR.
         05  AFP-CONCATENATE         PIC 9(8) BINARY VALUE 0.
         05  AFP-REMAINING-LENGTH    PIC 9(8) BINARY VALUE 0.
         05  AFP-REMAINING-STRING    PIC X(160) VALUE SPACES.
     03  AFPQSTR-VAR.
         05  AFP-MEASURED-WIDTH      PIC 9(5)V9(4) BINARY
                                     VALUE 0.
     03  AFPSCLR-VAR.
         05  AFP-COLOR               PIC 9(8) BINARY VALUE 0.
     03  AFPSICS-VAR.
         05  AFP-CHARACTER-SPACING   PIC 9(5)V9(4) BINARY VALUE 0.
```

```
03  AFPSLIB-VAR.
    05  AFP-PSEG-LIBRARY        PIC X(8) VALUE SPACES.
    05  AFP-OBJECT-LIBRARY      PIC X(8) VALUE SPACES.
    05  AFP-FONT-LIBRARY        PIC X(8) VALUE SPACES.
03  AFPSOUT-VAR.
    05  AFP-OUTPUT-RECORD-SIZE  PIC 9(8) BINARY VALUE 0.
    05  AFP-OUTPUT-FILENAME     PIC X(8) VALUE SPACES.
    05  AFP-OUTPUT-FILETYPE     PIC X(8) VALUE SPACES.
    05  AFP-OUTPUT-FILEMODE     PIC X(2) VALUE SPACES.
    05  AFP-REPLACE             PIC 9(8) BINARY VALUE 0.
03  AFPSPOS-VAR.
    05  AFP-X-COORDINATE        PIC 9(5)V9(4) BINARY VALUE 0.
    05  AFP-X-REF-COORD-SYS     PIC 9(8) BINARY VALUE 0.
    05  AFP-Y-COORDINATE        PIC 9(5)V9(4) BINARY VALUE 0.
    05  AFP-Y-REF-COORD-SYS     PIC 9(8) BINARY VALUE 0.
03  AFPSRTH-VAR.
    05  AFP-RULE-THICKNESS      PIC 9(5)V9(4) BINARY VALUE 0.
03  AFPSWSP-VAR.
    05  AFP-WORD-SPACING        PIC S9(5)V9(4) BINARY
                                VALUE 0.
03  AFP-ROW-ARRANGE-ARRAY.
        10  AFP-SUBROW-ARRANGE OCCURS 1 TO 64 TIMES
            DEPENDING ON AFP-NUMBER-SUBROWS.
            15 AFP-COLUMN-ARRANGE OCCURS 1 TO 64 TIMES
                  DEPENDING ON AFP-NUMBER-COLUMNS
                  PIC 9(8) BINARY.
03  AFP-COLUMN-WIDTH-ARRAY.
        10  AFP-COLUMN-WIDTH OCCURS 1 TO 64 TIMES
              DEPENDING ON AFP-NUMBER-COLUMNS
              PIC 9(5)V9(4) BINARY.
03  AFP-MIN-SUBROW-DEPTH-ARRAY.
        10  AFP-SUBROW-DEPTH OCCURS 1 TO 64 TIMES
              DEPENDING ON AFP-NUMBER-SUBROWS
              PIC S9(5)V9(4) BINARY.
```

APQPERF

To modify the APQPERF copy book for a CICS/ESA environment, follow the instructions in the comments on page 139.

```
/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
* COPY BOOK --- APQPERF                                         *
*                                                               *
* This copy book contains paragraphs which invoke the AFP API   *
* procedures.  Upon return from an AFP API procedure, the       *
* severity code is examined and if found to contain a SEVERE    *
* or FATAL code, the name of the AFP API call in error and      *
* its associated return code and severity code are displayed    *
* at SYSOUT.  In addition, the API is terminated by calling     *
* AFPTERM which causes any partial page to be printed and the   *
* COBOL program is also terminated by generating a STOP RUN     *
* statement.                                                    *
*---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    Initialize the AFPAPI                                      *
*                                                               *
*---------------------------------------------------------------*

 200-AFPINIT.
     CALL    "AFPINIT"
                     USING
                     BY REFERENCE
                        AFPAPI-HANDLE
                     BY CONTENT
                        AFP-TRACE
                     BY REFERENCE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPINIT" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    BEGIN DOCUMENT                                             *
*                                                               *
*---------------------------------------------------------------*

 210-AFPBDOC.

     CALL    "AFPBDOC"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-UNIT-OF-MEASURE
                        AFP-DOC-PAGE-WIDTH
                        AFP-DOC-PAGE-DEPTH
                        AFP-PAGE-ORIENTATION
                     BY REFERENCE
                        AFP-DOCUMENT-HANDLE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPBDOC" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    BEGIN PAGE                                                 *
*                                                               *
*---------------------------------------------------------------*

 220-AFPBPAGE.
     CALL    "AFPBPAG"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-DOCUMENT-HANDLE
                        AFP-PAGE-WIDTH
                        AFP-PAGE-DEPTH
                        AFP-PAGE-ORIENTATION
                     BY REFERENCE
                        AFP-PAGE-HANDLE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPBPAG" TO AFP-ERRDATA.
      PERFORM CHKSUCC.


/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*       CREATE AN AREA                                          *
*                                                               *
*---------------------------------------------------------------*

 230-AFPCAREA.
         CALL "AFPCARE"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-CURRENT-HANDLE
                        AFP-AREA-WIDTH
                        AFP-MAX-AREA-DEPTH
                        AFP-AREA-FRAME
                        AFP-SHADING-PATTERN
                        AFP-SHADING-INTENSITY
                     BY REFERENCE
                        AFP-AREA-HANDLE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPCARE" TO AFP-ERRDATA.
      PERFORM CHKSUCC.


/---------------------------------------------------------------*
*---------------------------------------------------------------*
*                                                               *
*    PUT AN AREA                                                *
*                                                               *
*---------------------------------------------------------------*

 235-AFPPAREA.
         CALL "AFPPARE"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-CURRENT-HANDLE
                        AFP-AREA-HANDLE
                        AFP-AREA-ROTATION
                     BY REFERENCE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPPARE" TO AFP-ERRDATA.
      PERFORM CHKSUCC.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    INCLUDE A PAGE OVERLAY                                   *
*                                                             *
*-------------------------------------------------------------*

 236-AFPIPOVL.
        CALL "AFPIOVL"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-OVLY-NAME
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPIOVL" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    DESTROY AN AREA                                          *
*                                                             *
*-------------------------------------------------------------*

 237-AFPXAREA.
        CALL "AFPXARE"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                    BY REFERENCE
                       AFP-AREA-HANDLE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPXARE" TO AFP-ERRDATA.
     PERFORM CHKSUCC.



/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    BEGIN A PARAGRAPH                                        *
*                                                             *
*-------------------------------------------------------------*

 240-AFPBPARA.
        CALL "AFPBPAR"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-FIRST-LINE-INDENT
                       AFP-FORMAT-OPTION
                       AFP-FIRST-LINE-OFFSET
                       AFP-LEFT-MARGIN
                       AFP-LINE-LENGTH
                       AFP-LINE-SPACING
                       AFP-PARAGRAPH-FRAME
                       AFP-RT-RULE-OFFSET
                       AFP-BOT-RULE-OFFSET
                       AFP-SHADING-PATTERN
                       AFP-SHADING-INTENSITY
                    BY REFERENCE
                       AFP-PARAGRAPH-HANDLE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPBPAR" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    QUERY CURRENT ATTRIBUTES                                 *
*                                                             *
*-------------------------------------------------------------*

 250-AFPQATTR.
        CALL "AFPQATT"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                    BY REFERENCE
                       AFP-UNIT-OF-MEASURE
                       AFP-X-COORDINATE
                       AFP-Y-COORDINATE
                       AFP-COLOR
                       AFP-RULE-THICKNESS
                       AFP-FONT-ID
                       AFP-CHARACTER-SPACING
                       AFP-WORD-SPACING
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPQATT" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    DEFINE FONT BY ATTRIBUTES                                *
*                                                             *
*-------------------------------------------------------------*

 260-AFPDFONT.

     CALL    "AFPDFNT"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-CODE-PAGE
                       AFP-DESC-NAME-LENGTH
                       AFP-DESCRIPTIVE-NAME
                       AFP-POINT-SIZE
                       AFP-WEIGHT
                       AFP-FONT-WIDTH
                       AFP-ROTATION
                       AFP-STYLE
                    BY REFERENCE
                       AFP-FONT-ID
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPDFNT" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SET FONT                                                 *
*                                                             *
*-------------------------------------------------------------*

 265-AFPSFONT.

     CALL    "AFPSFNT"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-FONT-ID
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPSFNT" TO AFP-ERRDATA.
     PERFORM CHKSUCC.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SET POSITION                                             *
*                                                             *
*-------------------------------------------------------------*

 270-AFPSPOS.
     CALL    "AFPSPOS"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-CURRENT-HANDLE
                        AFP-X-COORDINATE
                        AFP-X-REF-COORD-SYS
                        AFP-Y-COORDINATE
                        AFP-Y-REF-COORD-SYS
                     BY REFERENCE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPSPOS" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    QUERY CURRENT POSITION                                   *
*                                                             *
*-------------------------------------------------------------*

 275-AFPQPOS.
     CALL    "AFPQPOS"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-CURRENT-HANDLE
                     BY REFERENCE
                        AFP-X-COORDINATE
                        AFP-Y-COORDINATE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPQPOS" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    Query Character String Area Size                         *
*                                                             *
*-------------------------------------------------------------*

 277-AFPQSTR.
     CALL    "AFPQSTR"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-CURRENT-HANDLE
                        AFP-CHARACTER-STRING
                        AFP-STRING-LENGTH
                     BY REFERENCE
                        AFP-MEASURED-WIDTH
                        AFP-LINE-SPACING
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPQSTR" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SET UNITS                                                *
*                                                             *
*-------------------------------------------------------------*

 280-AFPSUNIT.

     CALL    "AFPSUNI"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-CURRENT-HANDLE
                        AFP-UNIT-OF-MEASURE
                     BY REFERENCE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPSUNI" TO AFP-ERRDATA.
      PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SET RULE THICKNESS                                       *
*                                                             *
*-------------------------------------------------------------*

 290-AFPSRTHK.

     CALL    "AFPSRTH"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-CURRENT-HANDLE
                        AFP-RULE-THICKNESS
                     BY REFERENCE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPSRTH" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PUT A BOX                                                *
*                                                             *
*-------------------------------------------------------------*

 300-AFPPBOX.
        CALL "AFPPBOX"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                        AFP-CURRENT-HANDLE
                        AFP-BOX-WIDTH
                        AFP-BOX-DEPTH
                        AFP-SHADING-PATTERN
                        AFP-SHADING-INTENSITY
                     BY REFERENCE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPPBOX" TO AFP-ERRDATA.
      PERFORM CHKSUCC.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PUT A RULE                                               *
*                                                             *
*-------------------------------------------------------------*

 310-AFPPRULE.
        CALL "AFPPRUL"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-DIRECTION
                       AFP-RULE-LENGTH
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPPRUL" TO AFP-ERRDATA.
     PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PUT TEXT IN A PARAGRAPH                                  *
*                                                             *
*-------------------------------------------------------------*

 320-AFPPTEXT.
        CALL "AFPPTXT"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       AFP-CONCATENATE
                       AFP-UNDERLINE
                    BY REFERENCE
                       AFP-REMAINING-LENGTH
                       AFP-REMAINING-STRING
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPPTXT" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    BEGIN GROUP                                              *
*                                                             *
*-------------------------------------------------------------*

 330-AFPBGRP.
        CALL "AFPBGRP"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-DOCUMENT-HANDLE
                       AFP-GROUP-NAME
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPBGRP" TO AFP-ERRDATA.
     PERFORM CHKSUCC.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PUT TAG                                                  *
*                                                             *
*-------------------------------------------------------------*

 335-AFPPTAG.
        CALL "AFPPTAG"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-TAG-NAME
                       AFP-TAG-VALUE
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPPTAG" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    END GROUP                                                *
*                                                             *
*-------------------------------------------------------------*

 340-AFPEGRP.
        CALL "AFPEGRP"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-DOCUMENT-HANDLE
                       AFP-GROUP-NAME
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPEGRP" TO AFP-ERRDATA.
     PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    PUT CHARACTER STRING                                     *
*                                                             *
*-------------------------------------------------------------*

 350-AFPPCHS.
        CALL "AFPPCHS"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-STRING-LENGTH
                       AFP-CHARACTER-STRING
                       AFP-ALIGNMENT-OPTION
                       AFP-ALIGNMENT-CHAR
                       AFP-POSITION-OPTION
                       AFP-UNDERLINE
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPPCHS" TO AFP-ERRDATA.
     PERFORM CHKSUCC.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    DEFINE A FIELD OF A ROW IN A TABLE                       *
*                                                             *
*-------------------------------------------------------------*

 360-AFPDFLD.
        CALL "AFPDFLD"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-FORMAT-OPTION
                       AFP-ALIGNMENT-POSITION
                       AFP-VERTICAL-FORMAT
                       AFP-LEFT-MARGIN
                       AFP-RIGHT-MARGIN
                       AFP-LINE-SPACING
                       AFP-TEXT-ORIENTATION
                       AFP-SHADING-PATTERN
                       AFP-SHADING-INTENSITY
                       AFP-TOP-THICKNESS
                       AFP-BOTTOM-THICKNESS
                       AFP-LEFT-THICKNESS
                       AFP-RIGHT-THICKNESS
                    BY REFERENCE
                       AFP-FIELD-ID
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
      MOVE "AFPDFLD" TO AFP-ERRDATA.
      PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    DEFINE A ROW OF A TABLE                                  *
*                                                             *
*-------------------------------------------------------------*

 361-AFPDROW.
        CALL "AFPDROW"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-MIN-SUBROW-DEPTH-ARRAY
                       AFP-TOP-THICKNESS
                       AFP-BOTTOM-THICKNESS
                       AFP-NUMBER-COLUMNS
                       AFP-NUMBER-SUBROWS
                       AFP-ROW-ARRANGE-ARRAY
                       AFP-COLUMN-WIDTH-ARRAY
                    BY REFERENCE
                       AFP-ROW-ID
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
      MOVE "AFPDROW" TO AFP-ERRDATA.
      PERFORM CHKSUCC.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    BEGIN A TABLE                                            *
*                                                             *
*-------------------------------------------------------------*

 362-AFPBTABL.
        CALL "AFPBTBL"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-TABLE-WIDTH
                       AFP-MAX-TABLE-DEPTH
                       AFP-TABLE-ROTATION
                       AFP-TOP-THICKNESS
                       AFP-BOTTOM-THICKNESS
                       AFP-LEFT-THICKNESS
                       AFP-RIGHT-THICKNESS
                    BY REFERENCE
                       AFP-TABLE-HANDLE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
      MOVE "AFPBTBL" TO AFP-ERRDATA.
      PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    BEGIN A ROW IN A TABLE                                   *
*                                                             *
*-------------------------------------------------------------*
 363-AFPBROW.
        CALL "AFPBROW"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       AFP-ROW-ID
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
      MOVE "AFPBROW" TO AFP-ERRDATA.
      PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    BEGIN A FIELD IN A ROW OF A TABLE                        *
*                                                             *
*-------------------------------------------------------------*

 364-AFPBFLD.
        CALL "AFPBFLD"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                       AFP-FIELD-ID
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
      MOVE "AFPBFLD" TO AFP-ERRDATA.
      PERFORM CHKSUCC.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    END FIELD                                                *
*                                                             *
*-------------------------------------------------------------*

 367-AFPEFLD.
        CALL "AFPEFLD"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPEFLD" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    END A ROW IN A TABLE                                     *
*                                                             *
*-------------------------------------------------------------*

 368-AFPEROW.
        CALL "AFPEROW"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                    BY REFERENCE
                       AFP-CURRENT-TABLE-DEPTH
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPEROW" TO AFP-ERRDATA.
     PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    END A TABLE                                              *
*                                                             *
*-------------------------------------------------------------*

 369-AFPETABL.
        CALL "AFPETBL"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-TABLE-HANDLE
                    BY REFERENCE
                       AFP-TABLE-DEPTH
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPETBL" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SET COLOR                                                *
*                                                             *
*-------------------------------------------------------------*

 380-AFPSCLR.
        CALL "AFPSCLR"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-COLOR
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPSCLR" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SET INTERCHARACTER SPACING                               *
*                                                             *
*-------------------------------------------------------------*

 385-AFPSICS.
        CALL "AFPSICS"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-CHARACTER-SPACING
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPSICS" TO AFP-ERRDATA.
     PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SET RESOURCE LIBRARY NAMES                               *
*                                                             *
*-------------------------------------------------------------*

 390-AFPSLIBS.
        CALL "AFPSLIB"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PSEG-LIBRARY
                       AFP-OBJECT-LIBRARY
                       AFP-FONT-LIBRARY
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPSLIB" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SET OUTPUT CHARACTERISTICS                               *
*                                                             *
*-------------------------------------------------------------*

 395-AFPSOUTC.
        CALL "AFPSOUT"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-OUTPUT-RECORD-SIZE
                       AFP-OUTPUT-FILENAME
                       AFP-OUTPUT-FILETYPE
                       AFP-OUTPUT-FILEMODE
                       AFP-REPLACE
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPSOUT" TO AFP-ERRDATA.
     PERFORM CHKSUCC.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    GET OUTPUT BUFFER                                        *
*                                                             *
*-------------------------------------------------------------*

 396-AFPGBUF.
        CALL "AFPGBUF"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-DOCUMENT-HANDLE
                    BY REFERENCE
                       AFP-BUFFER
                       AFP-BUFFER-LENGTH
                       AFP-MORE-RECORDS
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPGBUF" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    SET WORD SPACING                                         *
*                                                             *
*-------------------------------------------------------------*

 400-AFPSWSP.
        CALL "AFPSWSP"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-WORD-SPACING
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPSWSP" TO AFP-ERRDATA.
     PERFORM CHKSUCC.




/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    INCLUDE OBJECT                                           *
*                                                             *
*-------------------------------------------------------------*

 420-AFPIOBJ.
    CALL    "AFPIOBJ"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-OBJECT-NAME
                       AFP-OBJECT-WIDTH
                       AFP-OBJECT-DEPTH
                       AFP-OBJECT-ROTATION
                       AFP-OBJECT-MAPPING-OPTION
                       AFP-OBJECT-X-OFFSET
                       AFP-OBJECT-Y-OFFSET
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPIOBJ" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    INCLUDE A PAGE SEGMENT                                   *
*                                                             *
*-------------------------------------------------------------*

 440-AFPIPSEG.
        CALL "AFPIPSG"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-CURRENT-HANDLE
                       AFP-PSEG-NAME
                       AFP-INLINE-OPTION
                       AFP-REUSE-OPTION
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPIPSG" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    INVOKE A MEDIUM MAP                                      *
*                                                             *
*-------------------------------------------------------------*

 450-AFPINVMM.
        CALL "AFPINVM"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-DOCUMENT-HANDLE
                       AFP-MEDIUM-MAP-NAME
                    BY REFERENCE
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPINVM" TO AFP-ERRDATA.
     PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    END PARAGRAPH                                            *
*                                                             *
*-------------------------------------------------------------*

 460-AFPEPARA.
    CALL    "AFPEPAR"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-PARAGRAPH-HANDLE
                    BY REFERENCE
                       AFP-PARAGRAPH-DEPTH
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPEPAR" TO AFP-ERRDATA.
     PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    END AREA                                                 *
*                                                             *
*-------------------------------------------------------------*

 470-AFPEAREA.
    CALL    "AFPEARE"
                    USING
                    BY CONTENT
                       AFPAPI-HANDLE
                       AFP-AREA-HANDLE
                    BY REFERENCE
                       AFP-AREA-DEPTH
                       AFP-RET-CODE
                       AFP-SEVERITY-CODE.
     MOVE "AFPEARE" TO AFP-ERRDATA.
     PERFORM CHKSUCC.
```

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    END PAGE                                                 *
*                                                             *
*-------------------------------------------------------------*

 480-AFPEPAGE.
     CALL    "AFPEPAG"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                     BY REFERENCE
                        AFP-PAGE-HANDLE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPEPAG" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    END DOCUMENT                                             *
*                                                             *
*-------------------------------------------------------------*

 490-AFPEDOC.
     CALL    "AFPEDOC"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                     BY REFERENCE
                        AFP-DOCUMENT-HANDLE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPEDOC" TO AFP-ERRDATA.
      PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    TERMINATE AFPAPI                                         *
*                                                             *
*-------------------------------------------------------------*

 495-AFPTERM.
         CALL "AFPTERM"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                     BY REFERENCE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPTERM" TO AFP-ERRDATA.
      PERFORM CHKSUCC.


/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*    END THE  AFPAPI                                          *
*                                                             *
*-------------------------------------------------------------*

 500-AFPEND.
         CALL "AFPEND"
                     USING
                     BY CONTENT
                        AFPAPI-HANDLE
                     BY REFERENCE
                        AFP-RET-CODE
                        AFP-SEVERITY-CODE.
      MOVE "AFPEND" TO AFP-ERRDATA.
      PERFORM CHKSUCC.

/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*         DETERMINE SUCCESS OR FAILURE OF THE API CALL        *
*                                                             *
*  IF THE CALL FAILED, DISPLAY THE NAME OF THE CALL IN ERROR, *
*  THE API RETURN CODE AND SEVERITY CODE ON SYSOUT.  ALSO,    *
*  CALL AFPTERM TO TERMINATE THE API SESSION AND PRINT THE    *
*  PARTIAL PAGE (IF ONE EXISTS).                              *
*                                                             *
*-------------------------------------------------------------*

 CHKSUCC.
     IF (AFP-SEVERITY-CODE IS GREATER THAN WARNING)
*-------------------------------------------------------------*
*        THE FOLLOWING LINES                                  *
*        REPRESENT THE OUTPUT FROM THE EXEC CICS              *
*        TRANSLATOR FOR THE FOLLOWING STATEMENTS:             *
*                                                             *
*EXEC CICS WRITEQ TD QUEUE("CSSL")                            *
*          FROM(AFP-ERRDATA) END-EXEC.                        *
*EXEC CICS WRITEQ TD QUEUE("CSSL")                            *
*          FROM(AFP-MSG4) END-EXEC.                           *
*EXEC CICS WRITEQ TD QUEUE("CSSL")                            *
*          FROM(AFP-MSG5) END-EXEC.                           *
*EXEC CICS WRITEQ TD QUEUE("CSSL")                            *
*          FROM(AFP-RET-CODE-DISPLAY) END-EXEC.               *
*EXEC CICS WRITEQ TD QUEUE("CSSL")                            *
*          FROM(AFP-MSG6) END-EXEC.                           *
*EXEC CICS WRITEQ TD QUEUE("CSSL")                            *
*          FROM(AFP-SEVERITY-CODE-DISPLAY) END-EXEC.          *
*                                                             *
* THE FOLLOWING LINES SHOULD BE UNCOMMENTED FOR CICS:         *
*-------------------------------------------------------------*
*        MOVE AFP-RET-CODE TO AFP-RET-CODE-DISPLAY            *
*        MOVE AFP-SEVERITY-CODE TO AFP-SEVERITY-CODE-DISPLAY  *
*         MOVE ":\' 00008   " TO DFHEIV0                  *
*         MOVE "CSSL" TO DFHC0040                             *
*         MOVE LENGTH OF AFP-ERRDATA TO DFHB0020              *
*        CALL "DFHEI1" USING DFHEIV0  DFHC0040 AFP-ERRDATA    *
*    DFHB0020                                                 *
*         MOVE ":\' 00010   " TO DFHEIV0                  *
*         MOVE "CSSL" TO DFHC0040                             *
*         MOVE LENGTH OF AFP-MSG4 TO DFHB0020                 *
*        CALL "DFHEI1" USING DFHEIV0  DFHC0040 AFP-MSG4 DFHB0020*
*         MOVE ":\' 00012   " TO DFHEIV0                  *
*         MOVE "CSSL" TO DFHC0040                             *
*         MOVE LENGTH OF AFP-MSG5 TO DFHB0020                 *
*        CALL "DFHEI1" USING DFHEIV0  DFHC0040 AFP-MSG5 DFHB0020*
*         MOVE ":\' 00014   " TO DFHEIV0                  *
*         MOVE "CSSL" TO DFHC0040                             *
*         MOVE LENGTH OF AFP-RET-CODE-DISPLAY TO DFHB0020     *
*        CALL "DFHEI1" USING DFHEIV0  DFHC0040                *
*    AFP-RET-CODE-DISPLAY DFHB0020                            *
*         MOVE ":\' 00016   " TO DFHEIV0                  *
*         MOVE "CSSL" TO DFHC0040                             *
*         MOVE LENGTH OF AFP-MSG6 TO DFHB0020                 *
*        CALL "DFHEI1" USING DFHEIV0  DFHC0040 AFP-MSG6 DFHB0020*
*         MOVE ":\' 00018   " TO DFHEIV0                  *
*         MOVE "CSSL" TO DFHC0040                             *
*         MOVE LENGTH OF AFP-SEVERITY-CODE-DISPLAY TO DFHB0020 *
*        CALL "DFHEI1" USING DFHEIV0  DFHC0040                *
*    AFP-SEVERITY-CODE-DISPLAY DFHB0020                       *
*-------------------------------------------------------------*
*        COMMENT OUT THE FOLLOWING LINES IF USING CICS API    *
*-------------------------------------------------------------*
         DISPLAY AFP-ERRDATA "FAILED" UPON SYSOUT
         DISPLAY "AFPAPI Return Code: " AFP-RET-CODE UPON SYSOUT
         DISPLAY "AFPAPI Severity Code: " AFP-SEVERITY-CODE UPON
             SYSOUT
*-------------------------------------------------------------*
*        END OF OPTIONAL CODE FOR CICS API                    *
*-------------------------------------------------------------*
```

```
IF (AFP-ERRDATA NOT EQUAL TO "AFPEND") AND
   (AFP-ERRDATA NOT EQUAL TO "AFPTERM")
   CALL "AFPTERM"
           USING
           BY CONTENT
              AFPAPI-HANDLE
           BY REFERENCE
                                              AFP-RET-CODE
                                              AFP-SEVERITY-CODE
      STOP RUN
   ELSE CONTINUE
   END-IF
ELSE CONTINUE
END-IF.
```

APQSTRL

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*            STRING-LENGTH Program                            *
*                                                             *
*-------------------------------------------------------------*

     TITLE "STRING-LENGTH: Determine string length".
 ID DIVISION.
 PROGRAM-ID. STRING-LENGTH.
*-------------------------------------------------------------*
* This subroutine determines the number of characters in a    *
* string which includes leading and trailing blanks           *
* and returns the length in STRING-OUT-LENGTH.                *
* The string is assumed to be padded on the right with LOWVALUEs*
* so that the end of the string (including trailing blanks) can *
* be determined.                                              *
* The end of the string is determined by the rightmost character*
* that is not a LOW-VALUE.                                    *
*                                                             *
* The calling parameter list is:                              *
*   PIC X string (up to 32760 bytes)                          *
*   PIC 9(8) binary length of the number of bytes in string   *
*   PIC 9(8) binary length of returned string.                *
* A return code of zero signals successful completion,        *
* Return code 4 indicates an empty (all LOW-VALUES) string.   *
*-------------------------------------------------------------*
 DATA DIVISION.
 WORKING-STORAGE SECTION.
 77  RETCODE                 PIC 9(8) BINARY.
     SKIP1
 LINKAGE SECTION.
 01  STRING-IN.
     05 STRING-IN-PARM       OCCURS 32760 TIMES
                             DEPENDING ON STRING-IN-LENGTH
                             PIC X.
 01  STRING-IN-LENGTH        PIC 9(8) BINARY.
 01  STRING-OUT-LENGTH       PIC 9(8) BINARY.
 SKIP3
 PROCEDURE DIVISION USING STRING-IN,
                          STRING-IN-LENGTH,
                          STRING-OUT-LENGTH.
     MOVE ZERO TO RETCODE,
*-------------------------------------------------------------*
* find the last non-blank character.
*-------------------------------------------------------------*
     PERFORM WITH TEST AFTER
         VARYING STRING-OUT-LENGTH FROM STRING-IN-LENGTH
         BY -1
         UNTIL STRING-OUT-LENGTH = ZERO OR
               STRING-IN (STRING-OUT-LENGTH : 1) NOT = LOW-VALUE
       CONTINUE;
     END-PERFORM.
     IF STRING-OUT-LENGTH = ZERO
      THEN
       MOVE 4 TO RETCODE;
     END-IF.
*-------------------------------------------------------------*
* signal successful completion.
*-------------------------------------------------------------*
     MOVE RETCODE TO RETURN-CODE.
     GOBACK.
 END PROGRAM STRING-LENGTH.
```

APQTRIM

```
/-------------------------------------------------------------*
*-------------------------------------------------------------*
*                                                             *
*            TRIM Program                                     *
*                                                             *
*-------------------------------------------------------------*

     TITLE "TRIM: Trim leading and trailing blanks".
 ID DIVISION.
 PROGRAM-ID. TRIM.
*-------------------------------------------------------------*
* This subroutine trims leading and trailing blanks
* from a character variable and returns the length
* in STRING-LENGTH and the trimmed string in STRING-TRIM.
* The calling parameter list is:
*   PIC X string (up to 32760 bytes) to be trimmed
*   PIC 9(8) binary length of string to be trimmed
*   PIC X returned string
*   PIC 9(8) binary length of returned string.
* A return code of zero signals successful completion,
* return code 4 indicates an empty (all spaces) string.
*-------------------------------------------------------------*
 DATA DIVISION.
 WORKING-STORAGE SECTION.
 77  STRING-START            PIC 9(8) BINARY.
 77  STRING-END              PIC 9(8) BINARY.
 77  STRING-LENGTH           PIC S9(8) BINARY.
 77  RETCODE                 PIC 9(8) BINARY.
     SKIP1
 LINKAGE SECTION.
 01  STRING-IN.
     05 STRING-IN-PARM       OCCURS 32760 TIMES
                              DEPENDING ON STRING-IN-LENGTH
                              PIC X.
 01  STRING-IN-LENGTH        PIC 9(8) BINARY.
 01  STRING-TRIM.
     05 STRING-OUT           OCCURS 32760 TIMES
                              DEPENDING ON STRING-LENGTH
                              PIC X.
 01  STRING-OUT-LENGTH       PIC 9(8) BINARY.
 SKIP3
 PROCEDURE DIVISION USING STRING-IN,
                          STRING-IN-LENGTH,
                          STRING-TRIM,
                          STRING-OUT-LENGTH.
     MOVE ZERO TO RETCODE,
          STRING-START.
*-------------------------------------------------------------*
* find the number of leading blanks.
*-------------------------------------------------------------*
     INSPECT STRING-IN
         TALLYING STRING-START
         FOR LEADING SPACES.
*-------------------------------------------------------------*
* find the last non-blank character.
*-------------------------------------------------------------*
     PERFORM WITH TEST AFTER
         VARYING STRING-END FROM STRING-IN-LENGTH
         BY -1
         UNTIL STRING-END = ZERO OR
               STRING-IN (STRING-END : 1) NOT = SPACE
       CONTINUE;
     END-PERFORM.
*-------------------------------------------------------------*
* compute the trimmed string length.
*-------------------------------------------------------------*
     COMPUTE STRING-LENGTH = STRING-END - STRING-START.
*-------------------------------------------------------------*
* send back the trimmed string.
*-------------------------------------------------------------*
     IF STRING-LENGTH > ZERO
      THEN
       MOVE STRING-LENGTH TO STRING-OUT-LENGTH
       MOVE STRING-IN (STRING-START + 1 : STRING-LENGTH)
           TO STRING-TRIM,
      ELSE
       MOVE 4 TO RETCODE;
       MOVE ZERO TO STRING-OUT-LENGTH;
     END-IF.
*-------------------------------------------------------------*
* signal successful completion.
*-------------------------------------------------------------*
     MOVE RETCODE TO RETURN-CODE.
     GOBACK.
 END PROGRAM TRIM.
```

Appendix B. Related Publications

The following publications may help you understand the information in this publication.

Advanced Function Presentation

Title	Order Number
Guide to Advanced Function Presentation Contains an overview of AFP concepts and products	G544-3876
AFP Application Programming Interface: PL/1 Language Reference Contains PL/1 language bindings for using AFP API	S544-3874
AFP Application Programming Interface: Programming Guide and Reference Contains AFP API concepts and how to use the product.	S544-3872
Advanced Function Presentation: Printer Information Contains details about AFP printers	G544-3290
Page Printer Formatting Aid/370: User's Guide and Reference Contains information about the PPFA/370 product used to create AFP page definitions and form definitions	G544-3181
AFP Workbench for Windows: Using the Viewer Application Contains information about using Workbench with AFP API	G544-3813
AFP Conversion and Indexing Facility: Application Programming Guide Contains information about using AFP Conversion and Indexing Facility	G544-3824
Printing and Publishing Collection Kit Contains the BookManager versions of many AFP publications	SK2T-2921

Fonts

Title	Order Number
IBM AFP Fonts: Introduction to Typography	G544-3122
IBM AFP Fonts: Technical Reference for Code Pages	S544-3802
IBM AFP Fonts: Technical Reference for IBM Expanded Core Fonts	S544-5228
IBM AFP Fonts: Font Samples	S544-3792
Advanced Function Printing: Host Font Data Stream Reference	S544-3289

PSF/MVS

Title	Order Number
Print Services Facility/MVS: Application Programming Guide	S544-3673
Print Services Facility/MVS: System Programming Guide	S544-3672
Program Directory for Print Services Facility/MVS	None

PSF/VM

Title	Order Number
Print Services Facility/VM: Application Programming Guide	S544-3677
Print Services Facility/VM: System Programming Guide	S544-3680
Program Directory for Print Services Facility/VM	None

PSF/VSE

Title	Order Number
Print Services Facility/VSE: Application Programming Guide	S544-3666
Print Services Facility/VSE: System Programming Guide	S544-3665
Program Directory for Print Services Facility/VSE	None

Architecture

Title	Order Number
Mixed Object Document Content Architecture Reference Contains the definition of the Mixed Object Document Content Architecture and its functions and elements.	SC31-6802
Advanced Function Presentation: Programming Guide and Line Data Reference Contains information about processing line and mixed data, page definitions, and the X′5A′ prefix on structured fields.	S544-3884
Font Object Content Architecture Reference	S544-3285
Image Object Content Architecture Reference	SC31-6805
Intelligent Printer Data Stream Reference	S544-3417
Graphics Object Content Architecture Reference	SC31-6804
Presentation Text Object Content Architecture Reference	SC31-6803

CICS/ESA Version 4 Release 1

Title	Order Number
CICS/ESA Customization Guide	SC33-1165
CICS/ESA Resource Definition Guide	SC33-1166
CICS/ESA Operations and Utilities Guide	SC33-1167
CICS/ESA Application Programming Guide	SC33-1169
CICS/ESA Application Programming Reference	SC33-1170

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Advanced Function Presentation
Application Programming Interface:
COBOL Language Reference

Publication No. S544-3873-02

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