IBM

IBM System/38

IBM System/38
  System Operator Training
    Student Workbook
    and Advisor's Guide

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Preface

This text is intended to help a student learn the duties
and procedures needed by a system operator on the
IBM System/38. It is to be used with the course
diskette SV30-0183. It also contains, in an appendix,
information for the advisor.

Note to the Advisor

The advisor's guide is the appendix to this book. It lists your responsibilities, the materials required and the procedure for backing up the course diskette. Please turn to this section and familiarize yourself with the contents before you let any of your operators begin this course.

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This course assumes that you are familiar with the operations of a 5251/5252 display station. If you are not familiar with the display station, complete the System/38 Work Station Operator Training Course before continuing with this course. Ask your advisor for assistance.

Your advisor will supply you with the following material to be used while taking this course:

System/38 Operator's Guide — SC21-7735

System/38 Problem Determination Guide — SC21-7876

System/38 CPF Reference Manual Control Language — SC21-7731

Workbook for System/38 System Operator Training Course — (what you are reading now)

Paper and pencil

Diskette SV30-0183 (required for Section 3 only)

Operator's guides for the units that are on your System/38:

      3203 Printer — GA33-1529

      3262 Printer — GA33-1530

      5211 Printer — GA24-3658

      5224 Printer — GA34-0092

      5225 Printer — GA34-0054

      5256 Printer — GA21-9260

      5424 Multi-function Card Unit — GA21-9167

      3410/3411 Tape Unit — G232-0004

      5251 Display Station — Models 1 and 11 and
      5252 Dual Display Station — GA21-9248

      5251 Display Station — Models 2 and 12 — GA21-9323

This course is divided into three sections. Section 1 provides the information you need about how you make the System/38 operate. The beginning of each chapter notes the reading assignment in the reference material and lists the objectives of that chapter. *Do not begin reading the reference material until you are directed to do so in the narrative.* Each chapter has a test item to determine if you have reached the objective stated for the chapter. There is no requirement for the System/38 to be available while you are completing this section, but you will need the various operator guides and paper and pencil.

Section 2 presents several day-to-day situations that you as the system operator may be required to handle, and asks that you write the steps and procedures required by these situations. All the steps and procedures will have been discussed in Section 1. Suggested steps and procedures will be given for each situation. The System/38 need not be available during this section.

Section 3 directs you to start up the system, submit a job from diskette, display the job at various stages, and shut down the system. The knowledge from Sections 1 and 2 will be used in this exercise. This exercise will require that the System/38 be available to you for a period of time, so schedule this exercise with your advisor so that it won't interfere with the daily work in your firm.

Feel free to take a break from the course whenever you feel it is necessary; however, complete a full chapter before you stop.

When you are ready to proceed, gather your reference material and turn to Section 1.

Contents

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Section 1—How the System/38 Processes Jobs—and Your Part in Making it Happen

Chapter 1—The Role of a System Operator

Reading Material

'Your Role As The System Operator' in the System/38 Operator's Guide.

OBJECTIVES

Be able to list:

1. The 3 duties of the system operator

2. Ten functions that can be accomplished by entering commands through the system console

The duties that you will be performing and the responsibilities you will have as the system operator are:

1. *Preparing the system for startup and shutdown.* This function can be divided into non-machine and machine operations. The non-machine operations include:

- Having an adequate amount of standard supplies available within easy reach in the computer room. This includes single and multiple part continuous form paper, 96-column cards, etc.

- Determining the work that will be processed during the period you are system operator, and perhaps scheduling that work. The work to be processed could be work that was not completed the day or shift before, new requests entered at the beginning of your shift, or requests that come in during the day.

- Routing printed reports to the appropriate persons.

- Notifying the person in charge if an unexpected condition occurs in the system operations.

- Leaving the computer room area in a neat and orderly fashion at the end of your shift.

The machine operations include:

- Performing the startup procedures (setting the rotary switches, power on, inserting the diskettes, paper and cards).

- Submitting the work to be processed. The media could be cards, diskette, tape or commands entered on the console display station.

- Checking on the status of the work periodically during the day by entering requests for information to be displayed on the console display.

- Performing the operational steps required by any messages that are generated by the system or a work station user.

- Performing any media changes required by the work being processed. Messages displayed on the console display will identify the devices that need attention.

- Performing the shutdown procedures — displaying the status of users, and if necessary sending a message to those users that the system will be shut down. When all active users have signed off, power down the system in a controlled fashion.

2. *Controlling the computer operations during the day.* Controlling the operations will be accomplished by entering commands on the console display that will:

- Display information about the status of the system.

- Submit work requests (jobs) to the system for processing, and then control the sequence in which the requests are processed.

- Copy information to diskette and/or tape for storage in an area away from the computer.

- Send messages to all, or selected, work station users.

- Display messages sent from the system and/or the work station users. Messages sent by the system that indicate an error condition may require some action to be taken by the system operator. The action to be taken will be defined in a second-level message text and in either the messages guide or the runbook for your installation.

3. *Overall organization* and *housekeeping of the computer room area.* Supplies (paper, diskettes, ribbons, etc.) should be kept in an orderly manner, preferably in a storage area close to the computer. Only the supplies needed at the time should be in the main computer area, and those should be kept out of the walkways and areas where people will be moving around. A log of supplies used from the storage area should be kept, so that reordering can occur before the entire supply of the item is used. If, in your installation, there is a requirement for many diskette and/or tape changes, an inventory of these items should be set up. This inventory should record the location where each item is stored, and the date, time and by whom each item is removed from its location. Also record the date, time and who returned it to its location. Avoid having stacks of paper laying around — see that all reports are passed on to the appropriate people as soon as possible. Be familiar with your company's emergency procedures to secure the system and ensure the safety of personnel.

▶ Read the section on 'Your Role as the System Operator' in the System/38 Operator's Guide.

All procedures to be performed by the system operator should be documented in a runbook, and kept near the computer for the operator to reference whenever necessary. These procedures include machine setup (diskettes, printer forms, cards, etc.), commands required to be entered, and the distribution of the printed output. Operator guides for all devices should also be kept near the System/38 console for easy reference.

Turn to the next page for the test item for this chapter.

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CHAPTER 1–TEST ITEM

Using the reading assignment from Chapter 1 for reference, list on a sheet of paper:

1. The 3 duties of the system operator.

2. Ten functions that can be accomplished by entering commands through the system console.

When you have completed the test item, turn the page and compare your answers with the answer sheet.

CHAPTER 1—ANSWER TO THE TEST ITEM

1. The 3 duties of the system operator are:

   a. preparing the system for startup and shutdown

   b. controlling the computer operations during the day

   c. overall organization and housekeeping of the computer room area

2. Functions that can be accomplished by entering commands through the system console are:

   a. display the status of the system

   b. submit jobs (work requests) to be processed

   c. control the sequence in which the jobs are processed

   d. copy information to tape and/or diskette

   e. send messages to work stations

   f. display messages sent by the system and/or work station users

   g. start and stop subsystems

   h. control input/output operations

   i. control system devices

   j. shut down the system

If your lists of duties and functions agree with the above lists, you have passed this first test item. If not, review the questions with your advisor.

Chapter 2—System/38 Displays, Keyboards and Devices

Reading Material

System/38 Operator's Guide, operator manuals for devices on your system

OBJECTIVE

Be able to:

1. List two differences between the work station and the system console.

2. List one function that can be accomplished from each.

3. Identify the lights and keys of the system console display/keyboard, and list their functions.

4. List the steps needed to make the following devices "ready" for use: printer, diskette, tape and card unit.

This chapter will introduce you to the screen, keyboard, and devices attached to your system.

Open the System/38 Operator's Guide to the picture that precedes the beginning of Chapter 1. Identify the following areas on the picture: printer, system unit, diskette magazine drive, keyboard/display screen of the system console, operator/service panel of the system console. The system console is used to bring the system to an operational status; that is, the startup procedures must be performed on this device.

► Read Chapter 2 of the System/38 Operator's Guide, which will highlight the characteristics of the console display/keyboard and discuss the keys and indicator lights.

Chapter 2 discusses the command function (CF) keys. In Appendix A of the System/38 Operator's Guide, there is a chart listing certain CF keys that have special system-assigned functions. Take a few minutes to browse through the chart to familiarize yourself with the functions for future reference.

The work station display/keyboard should be familiar to you from the Work Station Operator Training course. The system operator can use this device instead of the operator's console to control the daily operations. If you use a work station as the system console, it should be located in the computer room area so that you are available to make the necessary media changes.

▶ Read Chapter 5 of the Operator's Guide, which will review the 5250 Information Display System and discuss the difference between the work station and the console display.

As system operator you will be responsible for readying other devices on your system, and making media changes (paper, cards, diskettes,
▶ etc.). To familiarize you with these devices, read the operator manuals for those devices you have on your system. For the diskette magazine
▶ drive operations, read Chapter 3 of the System/38 Operator's Guide.

When you are ready to take the test item for this chapter, turn to the next page. If you would like to review before taking the test item, a quick glance at the reading assignments will help.

CHAPTER 2—TEST ITEM

Using the reading assignments for reference, list the answers to the following questions on a sheet of paper:

1. Using Figures 2-1 through 2-5 on the following pages for additional reference, list

   a. 2 differences between the system console display/keyboard and the work station display/keyboard.

   b. 1 function that can be accomplished from each kind of display station.

2. The following questions pertain to the system console.

   a. What do the following screen indicators signify: attention, input inhibited and reset required.

   b. If you were instructed to press command function key 7 (CF7), which key(s) in the illustration below would you press, and what shift would you be in?

   c. If you were instructed to press command function key 11 (CF11), which key(s) in the illustration below would you press, and what shift would you be in?

Command Function Keys

CF11 CF1	CF12 CF2		CF19 CF9	CF20 CF10
CF13 CF3	CF14 CF4		CF21 HELP	CF22 SYS REQ
CF15 CF5	CF16 CF6		ROLL↑ ↑	ROLL↓ ↓
CF17 CF7	CF18 CF8		CF23 ←	CF24 →

   d. Using Appendix A of the System/38 Operator's Guide for reference, which CF key would be used to exit a function and return to the command entry display screen on the console?

3. List the steps needed to make the following devices "ready" for use: printer, diskette, tape and card unit. List the steps only for the devices that are on your System/38. Use the Operator's Guide for the various devices for reference.

Display Indicators {
■   Attention
—   Input Inhibited
—   Reset Required
—   Upper Shift
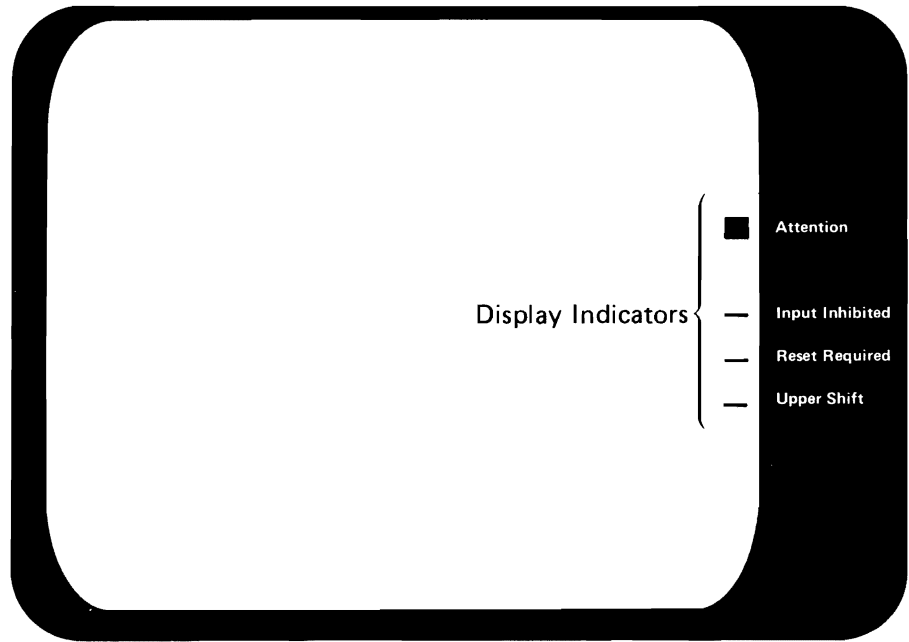
■ = The indicator is on
— = The indicator is off

Figure 2-1. Screen status indicators

Display Indicators {
■   System Available
—   Message Waiting
—   Keyboard Shift
—   Insert Mode
—   Input Inhibited
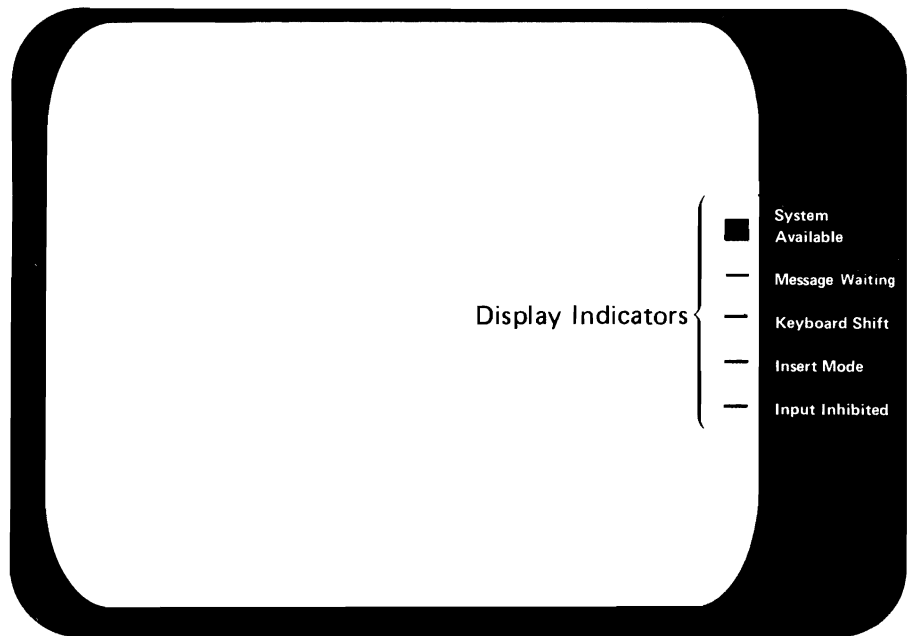
■ = The indicator is on
— = The indicator is off

Figure 2-2. Display screen status indicators
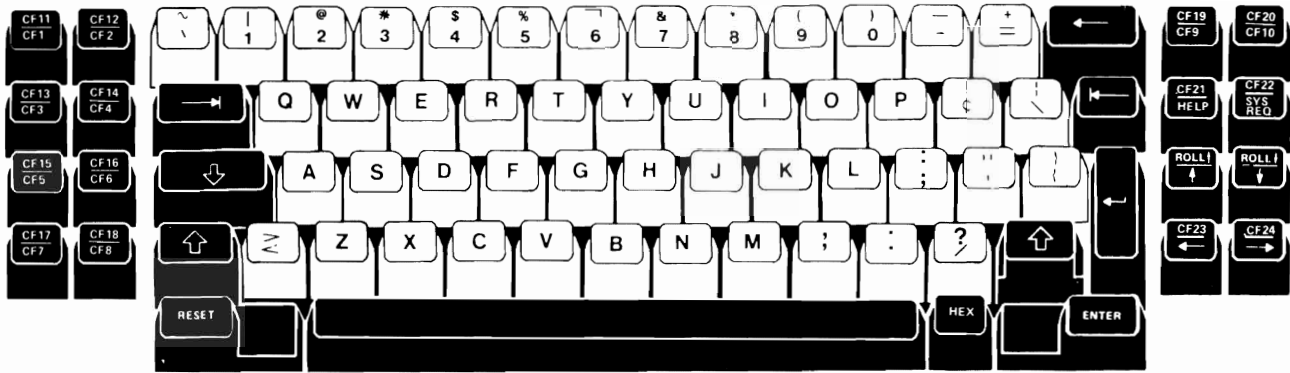
Figure 2-3. System console keyboard
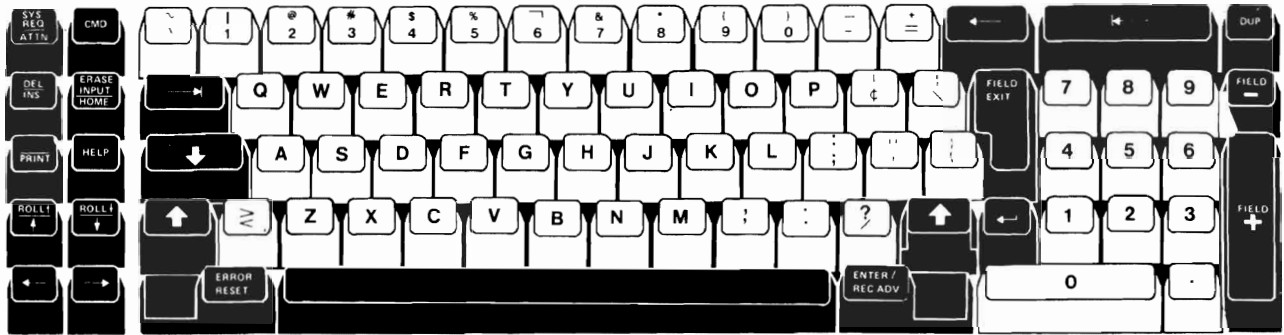
Figure 2-4. 5251/5252 Typewriter-like keyboard
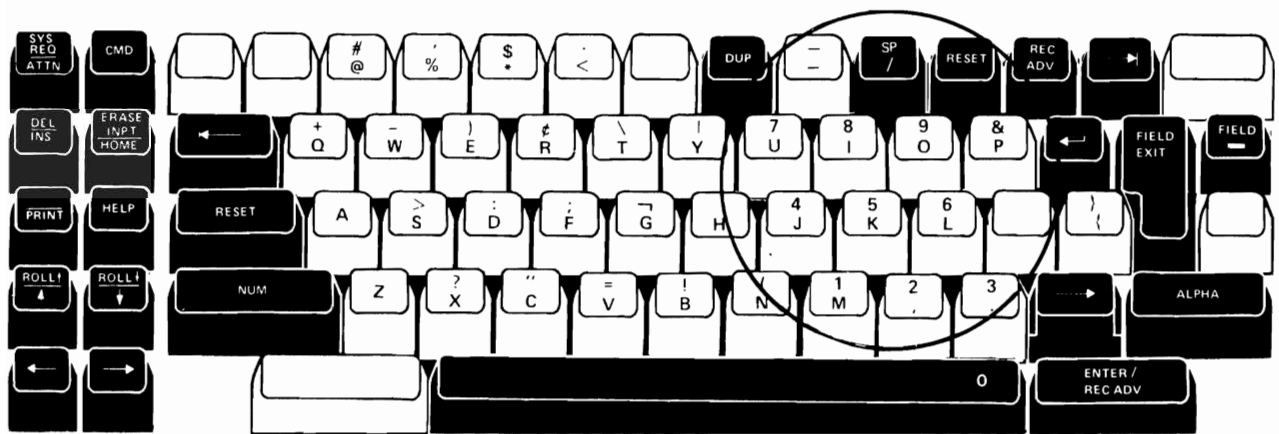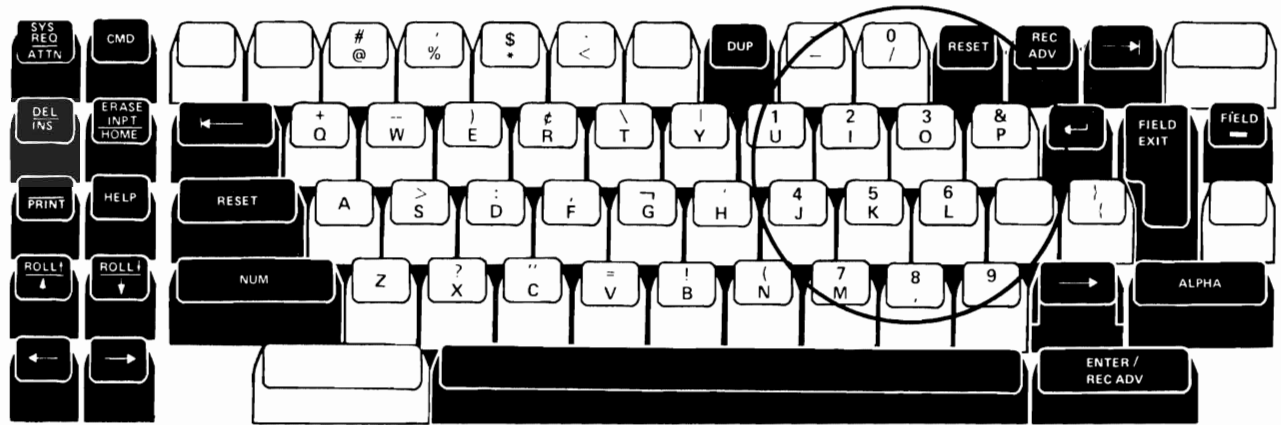
Figure 2-5. 5251/5252 Data entry keyboards

CHAPTER 2—ANSWER TO THE TEST ITEM

1. a. Console — displays 1024 characters (16 lines of 64 characters), as opposed to 1920 characters (24 lines of 80 characters).

   — has none of the following indicators on the right side of the display screen — system available, message waiting, insert mode.

   — does not have the numeric pad on the keyboard.

   — does not have the following keys — attention, delete/ insert, print, cmd, field exit, and the keys associated with the numeric pad.

   — has separate command function keys

   b. The console must be used to perform the startup procedures. The work station can be used to control the daily operations after startup has been accomplished.

2. a. Attention light — indicates there is a message waiting.

   Input Inhibit — operator cannot enter data and keyboard is locked.

   Reset Required — data entry error occurred and keyboard is locked. Operator needs to press reset key.

   b. Press CF7 key, and be in lower shift

Command Function Keys

CF11 / CF1	CF12 / CF2		CF19 / CF9	CF20 / CF10
CF13 / CF3	CF14 / CF4		CF21 / HELP	CF22 / SYS REQ
CF15 / CF5	CF16 / CF6		ROLL↑ / ↑	ROLL↓ / ↓
(CF17 / CF7)	CF18 / CF8		CF23 / ←	CF24 / →
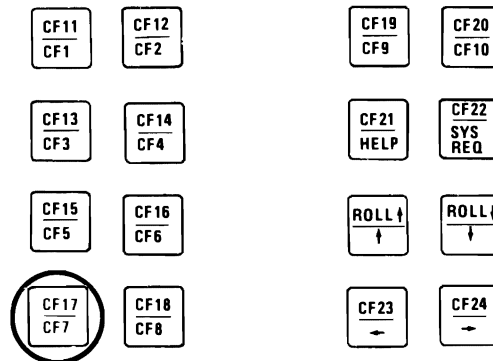
c. Press CF11 key, and be in upper shift

Command Function Keys

```
 CF11   CF12        CF19   CF20
 CF1    CF2         CF9    CF10

 CF13   CF14        CF21   CF22
 CF3    CF4         HELP   SYS
                           REQ

 CF15   CF16        ROLL↑  ROLL↓
 CF5    CF6          ↑      ↓

 CF17   CF18        CF23   CF24
 CF7    CF8          ←      →
```
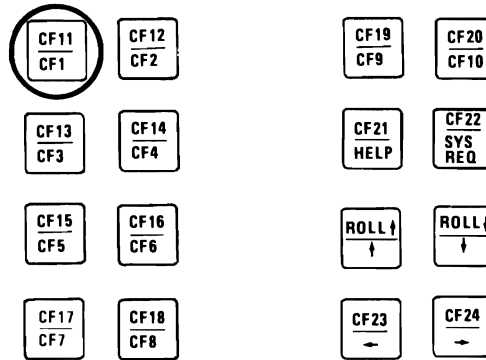
     d. CF1

3. Printer — move the power on switch to the on position (5256 printer only; the 5211 and 3262 printers should *always* have the power on.

     — put in the correct type of forms

     — align the forms

     — adjust the stacker guides

     — press the 'ready' key

Tape — place the reel of tape against the hub flange

     — push down the center of the hub to close

     — thread the tape over the idlers

     — wind the tape clockwise onto reel hub for 5 to 7 turns (BOT marker must be to the left of the read/write head)

     — close the door

     — press "reset," "load rewind" and "start" buttons

Card Unit — turn the power on switch to on

     — remove the cards from the hoppers

     — press the 'NPRO' key twice to clear the cards from the feed path

     — remove the cards from the stackers

     — joggle the card deck and place it in the correct hopper

     — press the "start" key

Diskette — lift the cover

     — place any single diskettes in the correct slot

     — place the magazine in the correct area

     — close the cover

If your answers agree with the solution, you have passed this test item and can proceed to the next chapter. Otherwise, consult your advisor for assistance.

Chapter 3—Startup of the System/38

Reading Material

System/38 Operator's Guide

OBJECTIVES

Given diagrams and screen formats, be able to identify on them the following:

1. Setting the multifunction rotary switches for normal operation.

2. The buttons/switches used in powering on the system.

3. The response to the sign-on prompt.

4. The responses to start the Control Programming Facility for normal operations.

The operator/service panel on the console of the System/38 will be the device used by you, the system operator, to begin the operating session, and to define the operating environment for that session.

▶ Read Chapter 1 of the System/38 Operator's Guide, up to "Settings to Install CPF." This reading assignment will discuss the various switches, lights and buttons on the console.

If your System/38 is close by, you may want to look at the operator/service panel and identify the lights, buttons and switches that you have read about. If the system is not available, identify these areas on the picture that follows.
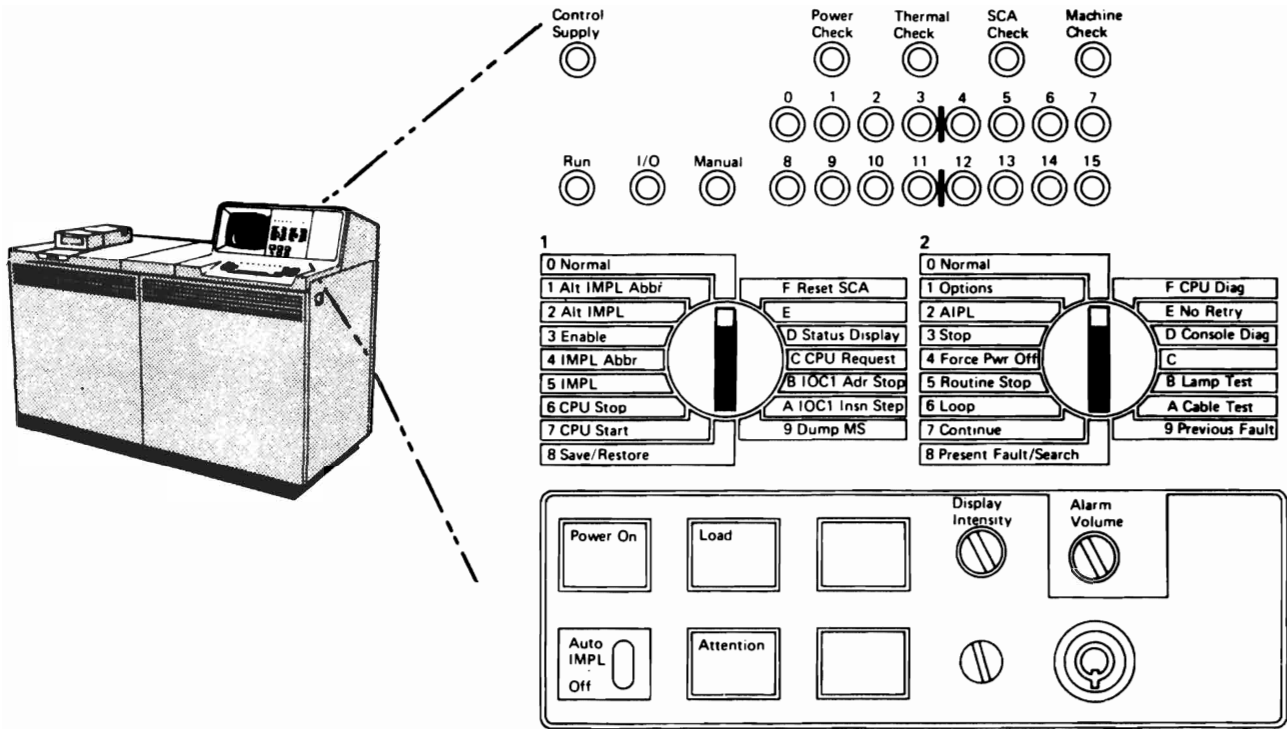
Using the System/38 Operator's Guide for reference, identify the settings of multifunction switches 1 and 2 shown below for a normal IMPL at the beginning of the workday. Check your answers with the one on the following page.

Control Supply Power Check Thermal Check SCA Check Machine Check

0 1 2 3 4 5 6 7

Run I/O Manual 8 9 10 11 12 13 14 15

1

| 0 Normal |
| 1 Alt IMPL Abbr |
| 2 Alt IMPL |
| 3 Enable |
| 4 IMPL Abbr |
| 5 IMPL |
| 6 CPU Stop |
| 7 CPU Start |
| 8 Save/Restore |

F Reset SCA
E
D Status Display
C CPU Request
B IOC1 Adr Stop
A IOC1 Insn Step
9 Dump MS

2

| 0 Normal |
| 1 Options |
| 2 AIPL |
| 3 Stop |
| 4 Force Pwr Off |
| 5 Routine Stop |
| 6 Loop |
| 7 Continue |
| 8 Present Fault/Search |

F CPU Diag
E No Retry
D Console Diag
C
B Lamp Test
A Cable Test
9 Previous Fault

Power On   Load   Display Intensity   Alarm Volume

Auto IMPL Off   Attention

If you had the switches set at 5 and 0, congratulations! If not, consult the reading assignment again, and if you still have a question, ask your advisor for assistance.

What would the settings of switches 1 and 2 be if this was the second microprogram load during the day?

If you said that switches 1 and 2 should be set at 4 and 0, you were correct.

▶ Read Chapter 8 of the System/38 Operator's Guide, up to the section on "Configuration Menu." This reading assignment will discuss the procedure required to bring the system to an operational status when the power has been turned off.

Given the following set of circumstances and using the diagrams on the next pages, indicate on a separate piece of paper the switch settings, buttons pressed, password entered and the options taken on the start CPF screen. Also indicate the sequence of the steps. Use the System/38 Operator's Guide for reference.

Circumstances:

Beginning of the workday

Today's date is July 30, 1980

The time is 8:00 am

The prior termination was normal

The queues are to be kept

There is no need to configure I/O or to wait for a data base recovery
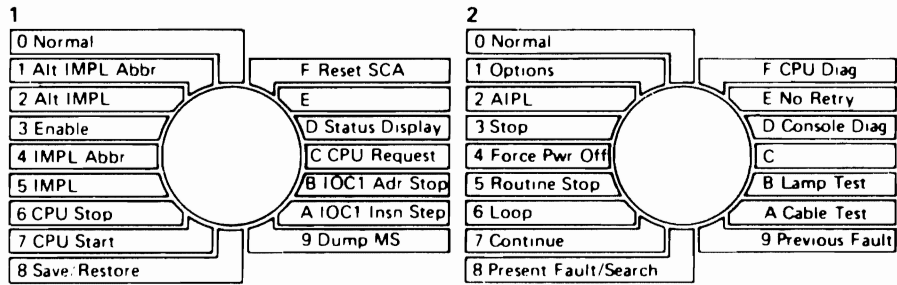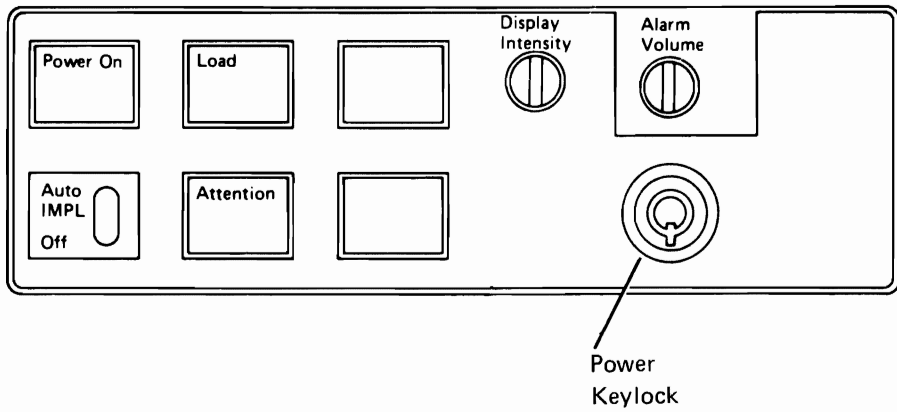
Power Keylock

1		
0 Normal		
1 Alt IMPL Abbr	F	Reset SCA
2 Alt IMPL	E	
3 Enable	D	Status Display
4 IMPL Abbr	C	CPU Request
5 IMPL	B	IOC1 Adr Stop
6 CPU Stop	A	IOC1 Insn Step
7 CPU Start	9	Dump MS
8 Save/Restore		

2		
0 Normal		
1 Options	F	CPU Diag
2 AIPL	E	No Retry
3 Stop	D	Console Diag
4 Force Pwr Off	C	
5 Routine Stop	B	Lamp Test
6 Loop	A	Cable Test
7 Continue	9	Previous Fault
8 Present Fault/Search		

```
                    START CONTROL PROGRAM FACILITY PROMPT
          Enter the following:
            System date (MDY):                    XX/XX/XX
            System time:                          XX:XX:XX
            Job queues (*KEEP *CLEAR):            *KEEP
            Output queues (*KEEP *CLEAR):         *KEEP
            Incomplete job logs (*KEEP *CLEAR):   *KEEP
            Configuration menu (*NO *YES):        *NO
            Data base recovery wait
                (*NO *YES):                       *NO

            Last termination was NORMAL
```

```
          Enter password to sign on:
```

If your solution agrees with the following, you have passed this practice test item. If your solution differs, try again! If you still don't agree, ask your advisor for assistance.

1

0 Normal	
1 Alt IMPL Abbr	F Reset SCA
2 Alt IMPL	E
3 Enable	D Status Display
4 IMPL Abbr	C CPU Request
5 IMPL	B IOC1 Adr Stop
6 CPU Stop	A IOC1 Insn Step
7 CPU Start	9 Dump MS
8 Save/Restore	

2

0 Normal	
1 Options	F CPU Diag
2 AIPL	E No Retry
3 Stop	D Console Diag
4 Force Pwr Off	C
5 Routine Stop	B Lamp Test
6 Loop	A Cable Test
7 Continue	9 Previous Fault
8 Present Fault/Search	
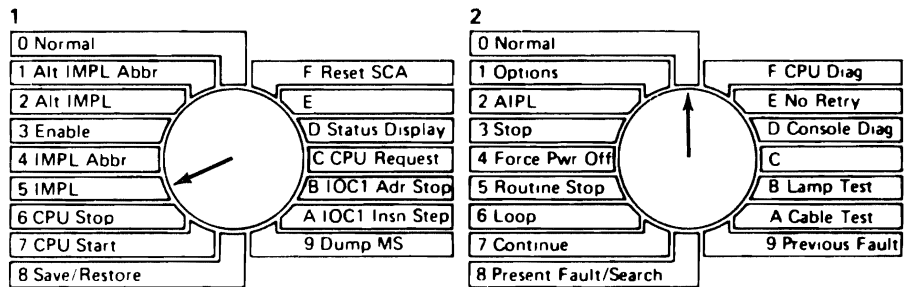
STEP 1. Set the multifunction rotary switches 1 (one) and 2 (two) to settings of 5 (five) and 0 (zero) respectively.
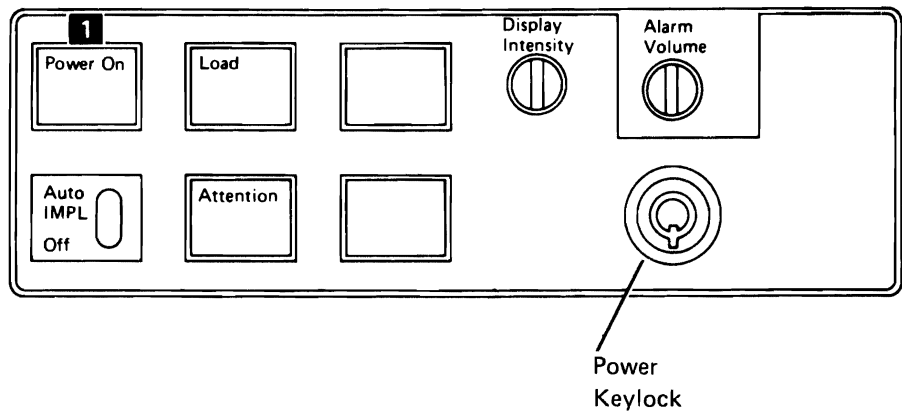
Power Keylock

STEP 2. If there is a power keylock, insert the key and turn it to unlock the Power On button. Press the Power On button.

```
Enter password to sign on:

 SYSOPR_
```
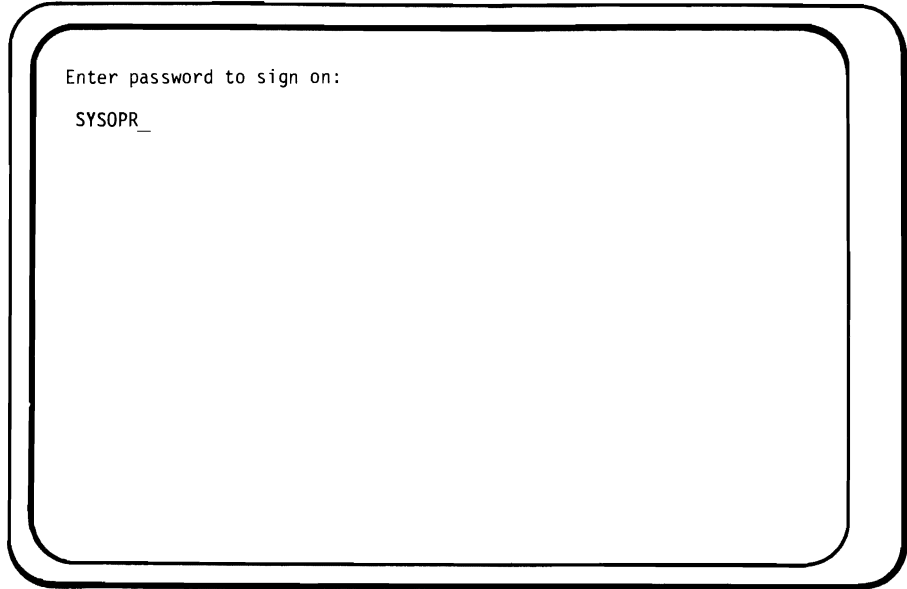
STEP 3. Enter the system operator's password, SYSOPR, when the sign-on prompt appears. *Note:* The characters you enter will not appear.

```
               START CONTROL PROGRAM FACILITY PROMPT
      Enter the following:
        System date (MDY):                    07/30/80
        System time:                          08:00:00
        Job queues (*KEEP *CLEAR):            *KEEP
        Output queues (*KEEP *CLEAR):         *KEEP
        Incomplete job logs (*KEEP *CLEAR):   *KEEP
        Configuration menu (*NO *YES):        *NO
        Data base recovery wait
           (*NO *YES)                         *NO

        Last termination was NORMAL
```
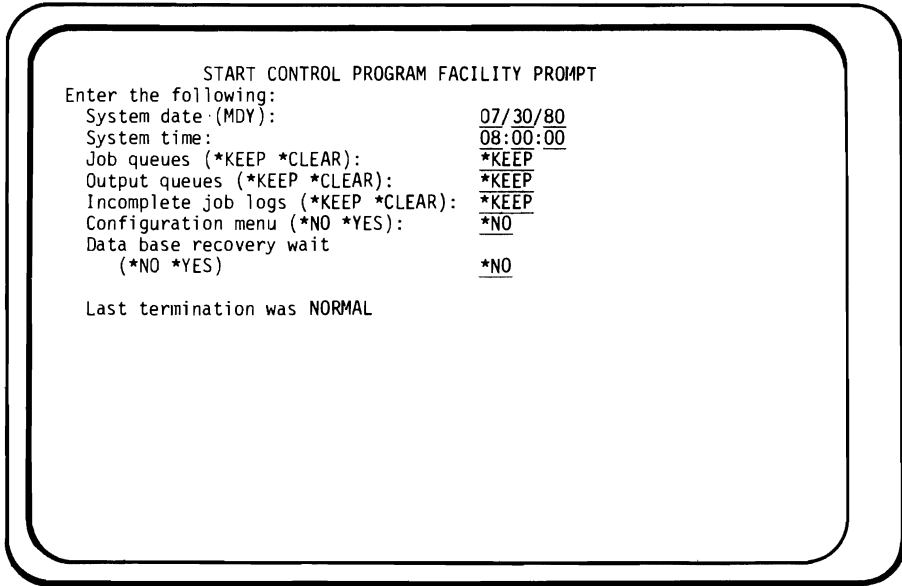
STEP 4. Enter the date, 07/30/80, and the time, 08:00:00, when the CPF prompt appears.

If all the circumstances were the same as in the preceeding test question, except that this was the second IMPL of the day, what would have changed?

In step 1, the switches 1 and 2 would be set to 4 and 0.

In step 2, the load button would be pressed.
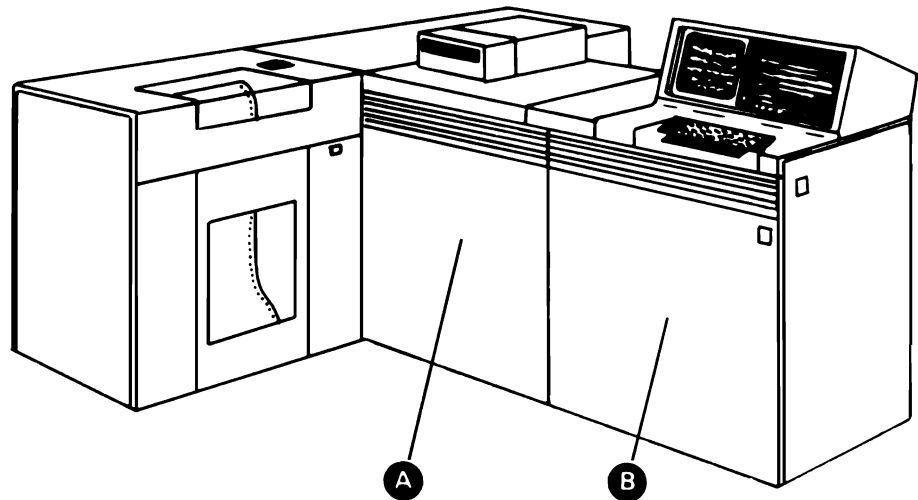
Under the covers of the system unit there are two more devices that are part of the System/38. The device identified by **A** in the above diagram is the auxiliary storage of the system. Auxiliary storage is that area where the data pertaining to your company's business is kept (the customer master information, inventory master information, employee master information, etc.). The instructions on how to manipulate that data (programs) and the instructions that control the overall system operations (Control Program Facility) are also stored on the auxiliary storage.

The device identified by **B** in the diagram above is the main storage of the system. Main storage is the area where all logical decisions and arithmetic operations are performed, and that reads data from and sends data to other devices.

When main power is turned off, the data and programs in auxiliary storage remain intact, but the contents of main storage are erased, and must be restored before processing can continue.

What happens when the system is started up? When the load button is pressed, the system goes into an 'on' mode and interrogates the multi-function rotary switches to determine what to do next. When switch #1 is set to '5' and switch #2 is set to '0' the system will transfer, from auxiliary storage to main storage, the control instructions to exercise the hardware and be sure it is operating correctly. The system will then execute those instructions. If any device does not perform as it should, lights on the operator/service panel will come on and remain on, or a message will be displayed on the console display to alert the system operator. If all the diagnostics run properly, the console display will show the sign-on prompt for entry of the password. When you sign on as SYSOPR you are requesting that the instructions to control the processing of your job requests be transferred from auxiliary storage to main storage. The 'start CPF' prompt screen is displayed to allow some options to be specified, and when you press the enter key, the transfer from auxiliary storage to main storage begins.

Are you ready to try the test item for this chapter?

If you feel confident, turn to the next page and begin!

Otherwise, glance over the chapter and the reading assignment first.

CHAPTER 3–TEST ITEM

Using the reading assignment from Chapter 3 and the following diagrams for reference, list on a sheet of paper the switch settings, buttons pressed, password entered, the sequence of steps and the options taken on the 'start CPF' prompt screen for these circumstances:

Today is August 13, 1980, and at 11 o'clock in the morning you are performing the second IMPL of the day. The system had been shut down in a controlled manner, and the power is turned off. There is no need to configure I/O or wait for data base recovery. All queues are to be kept.
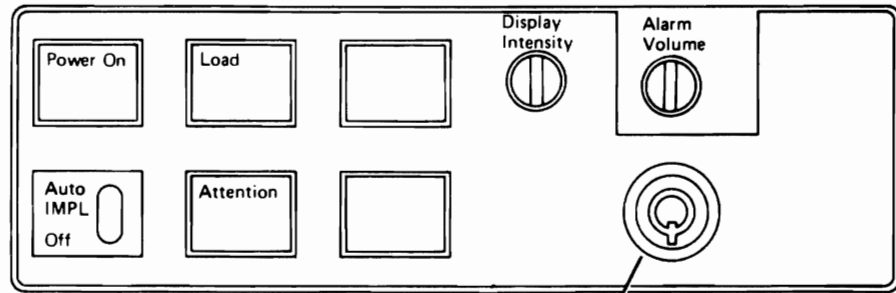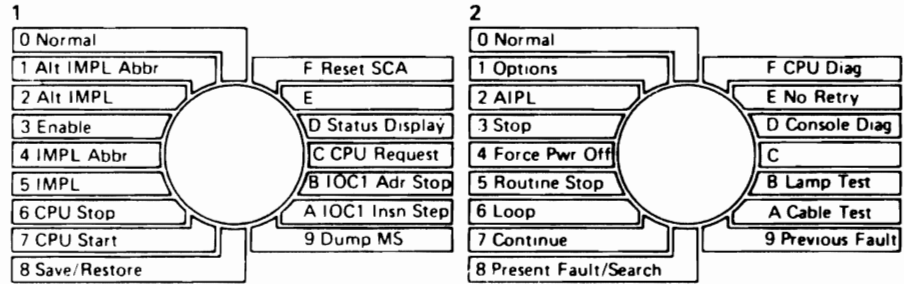
1

0 Normal	
1 Alt IMPL Abbr	F Reset SCA
2 Alt IMPL	E
3 Enable	D Status Display
4 IMPL Abbr	C CPU Request
5 IMPL	B IOC1 Adr Stop
6 CPU Stop	A IOC1 Insn Step
7 CPU Start	9 Dump MS
8 Save/Restore	

2

0 Normal	
1 Options	F CPU Diag
2 AIPL	E No Retry
3 Stop	D Console Diag
4 Force Pwr Off	C
5 Routine Stop	B Lamp Test
6 Loop	A Cable Test
7 Continue	9 Previous Fault
8 Present Fault/Search	

Power On | Load | | Display Intensity | Alarm Volume

Auto IMPL Off | Attention | | | Power Keylock

```
                 START CONTROL PROGRAM FACILITY PROMPT
Enter the following:
  System date (MDY):                    XX/XX/XX
  System time:                          XX:XX:XX
  Job queues (*KEEP *CLEAR):            *KEEP
  Output queues (*KEEP *CLEAR):         *KEEP
  Incomplete job logs (*KEEP *CLEAR):   *KEEP
  Configuration menu (*NO *YES):        *NO
  Data base recovery wait
     (*NO *YES):                        *NU

  Last termination was NORMAL
```

```
Enter password to sign on:
```

CHAPTER 3—ANSWER TO THE TEST ITEM

Step 1 — Set the multifunction rotary switches #1 and #2 to a setting of '4' and '0'

Step 2 — If there is a Power Keylock, insert and turn the key to unlock the Power On key.

Step 3 — Press the Power On button.

Step 4 — Enter the system operator's password, SYSOPR, when the sign-on prompt appears.

Step 5 — Enter the date of 08/13/80 and the time of 11:00:00 when the start CPF prompt appears.

The diagrams would look like this if you had filled them out:

Step 1 — Multifunction rotary switch settings:

1

0 Normal	
1 Alt IMPL Abbr	F Reset SCA
2 Alt IMPL	E
3 Enable	D Status Display
4 IMPL Abbr ←	C CPU Request
5 IMPL	B IOC1 Adr Stop
6 CPU Stop	A IOC1 Insn Step
7 CPU Start	9 Dump MS
8 Save/Restore	

2

0 Normal	
1 Options	F CPU Diag
2 AIPL	E No Retry
3 Stop	D Console Diag
4 Force Pwr Off	C
5 Routine Stop	B Lamp Test
6 Loop	A Cable Test
7 Continue	9 Previous Fault
8 Present Fault/Search	

Step 2 — Unlock the power on key. **A** — Optional

Step 3 — Press the power on key **B**

```
     B
     ↓
┌─────────────────────────────────────────────────────────────┐
│  ┌──────────┐  ┌──────────┐  ┌──────────┐   Display    Alarm │
│  │          │  │          │  │          │   Intensity  Volume│
│  │ Power On │  │  Load    │  │          │    ╱─╲        ╱─╲   │
│  │          │  │          │  │          │   │ ╱ │      │ ╱ │  │
│  └──────────┘  └──────────┘  └──────────┘    ╲─╱        ╲─╱   │
│                                                              │
│  ┌──────────┐  ┌──────────┐  ┌──────────┐                    │
│  │ Auto  ○  │  │          │  │          │        ╱──╲         │
│  │ IMPL  │ ││  │Attention │  │          │       │ ⊙  │        │
│  │ Off   ○  │  │          │  │          │        ╲──╱     ↘   │
│  └──────────┘  └──────────┘  └──────────┘              A      │
└─────────────────────────────────────────────────────────────┘
                                              Power
                                              Keylock
```

Step 4 — Enter the system operator's password, SYSOPR
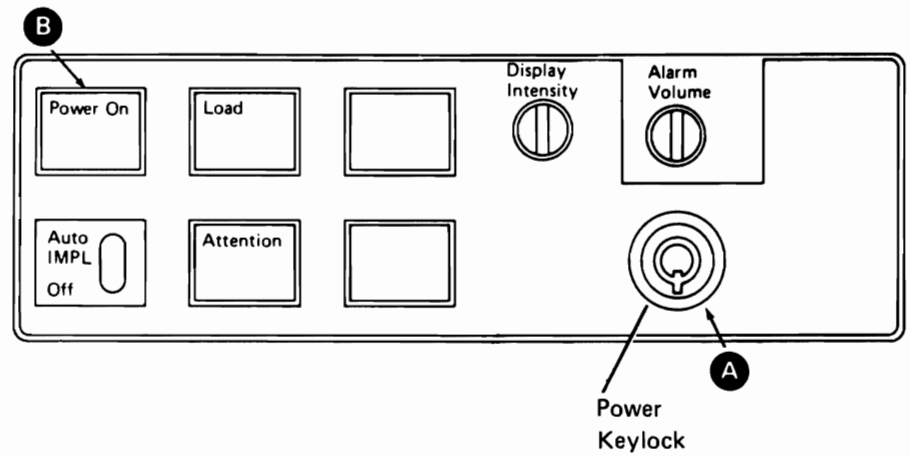
```
┌──────────────────────────────────────────────────┐
│ ┌──────────────────────────────────────────────┐ │
│ │                                              │ │
│ │  Enter password to sign on:                  │ │
│ │                                              │ │
│ │   SYSOPR_                                     │ │
│ │                                              │ │
│ │                                              │ │
│ │                                              │ │
│ │                                              │ │
│ │                                              │ │
│ │                                              │ │
│ │                                              │ │
│ │                                              │ │
│ └──────────────────────────────────────────────┘ │
└──────────────────────────────────────────────────┘
```
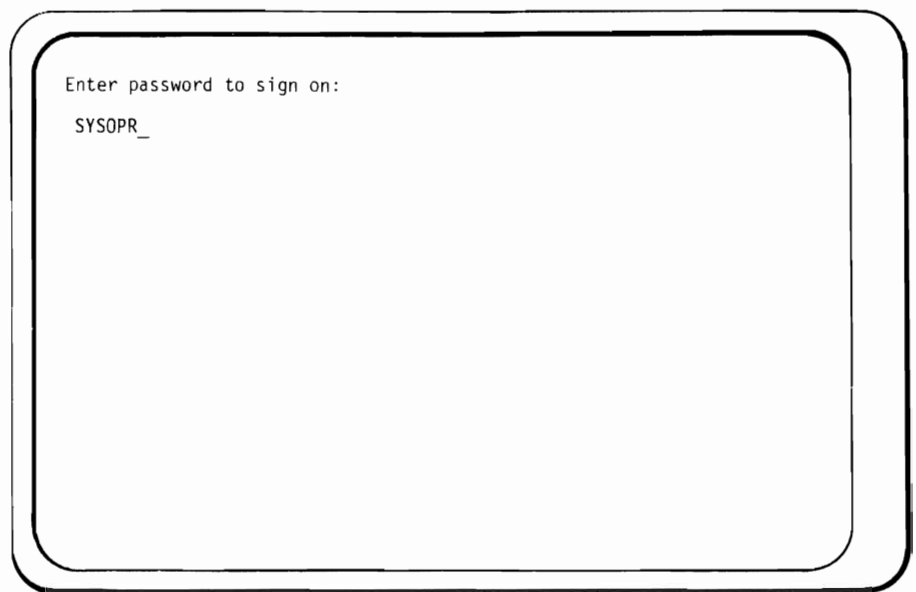
Step 5 — Enter today's date of 08/13/80 and time of 11:00:00

```
                    START CONTROL PROGRAM FACILITY PROMPT
        Enter the following:
          System date (MDY):                    08/13/80
          System time:                          11:00:00
          Job queues (*KEEP *CLEAR):            *KEEP
          Output queues (*KEEP *CLEAR):         *KEEP
          Incomplete job logs (*KEEP *CLEAR):   *KEEP
          Configuration menu (*NO *YES):        *NO
          Data base recovery wait
             (*NO *YES):                        *NO

          Last termination was NORMAL
```
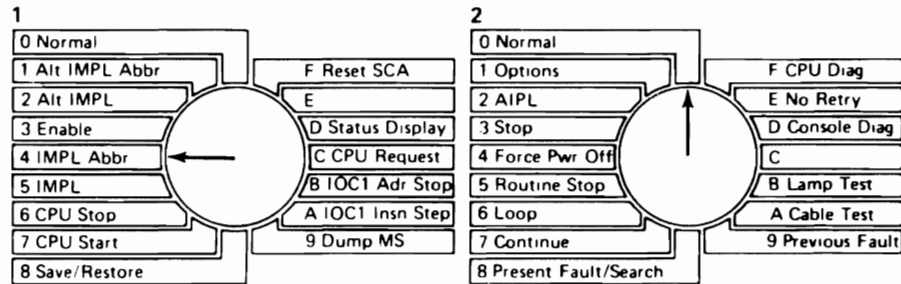
If your answers agree, proceed to the next chapter! Otherwise, consult your advisor for assistance.

Chapter 4—Control Language

Reading Material

System/38 Operator's Guide

OBJECTIVES

Be able to:

1. Place a check mark by the correctly formatted control language statements and

2. Make the coding changes required on the incorrectly formatted statements

Control language is the way the system operator communicates the various tasks to be performed on the system. Read Chapter 6 of the
▶ System/38 Operator's Guide—the sections on "Control Language" up to "Using the System Operator Menu." This reading assignment will cover CPF terminology, the syntax of command statements and the different formats that can be entered. This chapter refers to a list of typical 'CPF objects.' You are not responsible for understanding these particular objects.

To review: each command statement has a command name, and for some commands, parameters. The command name is a one word abbreviation that defines the task to be processed. The parameter(s) associated with that command name will define the specific details required for that command to process. Parameters consist of a keyword and an associated value. For example:

```
DSPSBS        SBS(TEST)         OUTPUT(*LIST)
  ↑             ↑      ↖           ↑       ↑
command       keyword  value     keyword  value
name
```
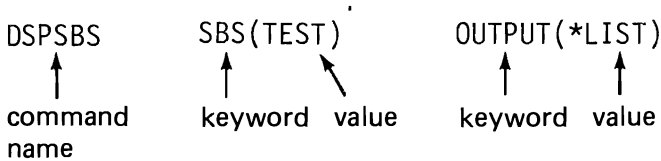
Some of the parameters are optional, and need be specified only if they are required to identify the task to be done. Parameters have default values, which means that unless we give the keyword and a specific value, the system will assume a predetermined value. For example, assume that in the above example the default value of the keyword OUTPUT was *LIST. It is possible to submit the following command and have the end result be the same:

```
DSPSBS SBS(TEST)
```

(Remember, this is just an example; *LIST is not the actual default value for this keyword.)

One method of coding CL parameters is to specify the command name and the keyword(s) followed by the associated value enclosed in parentheses, for example: DSPSBS SBS(TEST) OUTPUT(*LIST). The second method of coding CL parameters is to specify only the command name and the values (parenthesis are not necessary), for example:

    DSPSBS TEST *LIST

If this method is used, the values must be in a specific sequence, and the position of the value defines which parameter the value is related to.

A combination of the two methods could be used, in which case the positional parameters must appear first. A command can also have a label, or a qualified command name.

The following test exercise will ask you to determine if a command is *coded* correctly, and, if it is not coded correctly, what must be changed. Use the reading assignment and the CPF Control Language Reference Manual to come up with your own determinations before checking the solutions which follow each exercise. Write your solutions on a sheet of paper. Since the solution to each command follows immediately, it might be a good idea to cover each command with your paper until you have decided on *your* solution.

Are the following commands *coded* correctly? If not, what needs to be changed?

Command: SAVOBJ OBJ-ITEM1 LIB-SOME

Solution: the command is incorrect. Correct coding would be

            SAVOBJ OBJ(ITEM1) LIB(SOME)

Command: SAVEOBJ ITEM9 OTWLIB

Solution: the command is coded correctly.

Command: SAVOBJ (ITEM3 ITEM4) LIB(QGPL)

Solution: the command is coded correct.

If you wish more practice, continue. Otherwise turn to the test item for this chapter.

Command: SAVOBJ (ITEM3 ITEM4) LIB(QGPL)

Solution: the command is correct.

Command: SAVOBJ LIB(QGPL) ITEM3

Solution: the command is incorrect. Positional parameters must appear first.

            Either SAVOBJ ITEM3 LIB(QGPL) or
                    SAVOBJ ITEM3 QGPL   is correct

Turn to the test item for this chapter.

CHAPTER 4—TEST ITEM

Place a check mark by the control language statements that are coded correctly in the following list.

For each incorrectly coded statement, *rewrite* the statement in the correct format.

1. SAVOBJ OBJ-ITEM5 LIB-ALL

2. SAVOBJ NONE

3. SAVOBJ LIB(QGPL) ITEM7

4. SAVOBJ (ITEM7 ITEM8) QSYS

5. SAVOBJ (ITEM7 ITEM8) QGPL *N M1

6. SAVOBJ.QTEMP OBJ(ITEM10) LIB(MWE)

7. In statement 3, what is QGPL?

Compare your answers to the solutions on the next page.

CHAPTER 4—ANSWER TO THE TEST ITEM

1. Correct coding would be SAVOBJ OBJ(ITEM5) LIB(ALL)

2. Correct coding would be SAVOBJ NONE LIB(SOMELIB)

3. Correct coding would be:

   > SAVOBJ ITEM7 LIB(QGPL) or
   > SAVOBJ ITEM7 QGPL or
   > SAVOBJ OBJ(ITEM7) LIB(QGPL)

4. SAVOBJ (ITEM7 ITEM8) QSYS ✓

5. SAVOBJ (ITEM7 ITEM8) QGPL *N M1 ✓

6. SAVOBJ.QTEMP OBJ(ITEM10) LIB(MWE) ✓

7. QGPL is a library

If your answers agree, proceed to the next chapter!

Otherwise, consult your advisor for assistance.

Chapter 5—Entering Commands

Reading Material

System/38 Operator's Guide

OBJECTIVES

Be able to write the options and input data needed to request all the functions allowed on the System Operator menu.

Be able to answer questions pertaining to:

1. How to use a syntax diagram to determine the keywords and default values of a command

2. How to use the "command entry" screen to enter commands and respond to messages from the system

3. How to use the prompting feature of the system

▶ Read Chapter 7 of the System/38 Operator's Guide. This reading assignment will explain how to use syntax diagrams to determine which parameters are associated with which commands and the default values for keywords.

This page intentionally left blank.

Using the information that you have just read for reference, answer (on a sheet of paper) the following practice test questions about the syntax diagram shown below:

```
┌─────────────────────────────────────────────────────────────────────────┐
│  DSPSPLFA──────────── FILE spooled-file-name ──────────────────────────► │
│                                                                Required   │
├─────────────────────────────────────────────────────────────────────────┤
│                              *                                 Optional   │
│    ➤─ JOB ─┬────────────────────────────┬──── ── ────────────────►        │
│            └─ job-name[.user-name[.job-number]] ─┘                        │
│                          *ONLY                                            │
│    ➤─ SPLNBR ─┬─ *LAST ────────┬──── OUTPUT ─┬─ * ─┬──────                 │
│               └─ spooled-file-number ─┘      └─ *LIST ─┘                   │
│                                                        Job:B,I  Pgm:B,I    │
└─────────────────────────────────────────────────────────────────────────┘
```
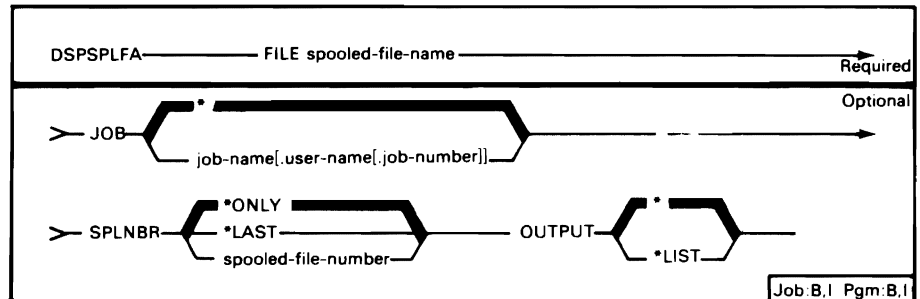
1. What is the command name?

2. Which parameters are required and which parameters are optional?

3. What are the default values associated with the optional keywords SPLNBR and OUTPUT?

4. If the positional format is used for entry, which keyword will the first value be associated with, which keyword will the second value be associated with, and which keyword will the third value be associated with?

5. What are the allowable values that can be associated with the keyword SPLNBR?

Turn to the next page and compare your answer with the solution found there.

Solution to the test questions:

1. Command name is DSPSPLFA

2. Required parameter is FILE, optional parameters are JOB, SPLNBR and OUTPUT

3. *keyword*   *value*

   SPLNBR   *ONLY

   OUTPUT   *

4. First value will be associated with FILE, second value with JOB, and third value with SPLNBR

5. *ONLY, *LAST and the spooled file number

Did your answers agree? If not, review the reading assignment again.

The "Command List" section at the end of Chapter 7 in your reading assignment shows a list of commands that can be used to manage the System/38. Take a few minutes and browse through them, but do not try to understand what the commands do or when to use them. The command descriptions and syntax diagrams for these and other system commands can be found in the CL Reference Manual. Both the System Operator's Guide and the CL Reference Manual should be available for your reference when you begin your daily routines as system operator.

All of the procedures (commands entered, supplies needed, etc.) the system operator is expected to perform should be documented and kept in a runbook. This runbook should be kept near the system console, and will be your first reference point for any questions that arise when you begin daily operations. Remember that this runbook should be consulted first, and if a situation arises where you can not find the correct next step, then contact your manager for the decision on what to do next.

In Chapter 3 of this text the startup and sign-on procedures were discussed. After the "start CPF" prompts have been selected, the next screen displayed is the *system operator menu* (shown below). This menu is a shortcut way of requesting some of the functions that you may be performing on a day-to-day basis.

▶ Read in Chapter 6 of the System/38 Operator's Guide, the section on "Using the System Operator Menu." This reading assignment will identify and explain the various areas shown on the menu.

Let's tackle some practice test questions.

Practice test question:

For each of the following sets of circumstances, write the correct option codes and any other data that must be input to:

1. Determine how many, and the names of the jobs, that are waiting to be processed by the QBATCH subsystem

2. Determine the names of the files waiting to be produced from the output queue QPRINT

3. Execute the program named JUNK

4. Execute the CHGJOB JUNK OUTPTY (2) command

```
                        SYSTEM OPERATOR MENU
       SELECT ONE OF THE FOLLOWING:
         1. DSPJOBQ  (JOBQ)                 7. STRPRTWTR   DEVICE,OUTQ
         2. DSPOUTQ  (OUTQ)                 8. CNLWTR      WRITER
         3. SNDMSG   TOMSGQ,(TYPE),MSG      9. STRDKTRDR   DEVICE,LABEL
         4. CALL     PROGRAM               10. CNLRDR      READER
         5. EXECUTE  COMMAND               90. SIGNOFF     (*NOLIST *LIST)
         6. SBMJOB   (JOB),(JOBD),(CMD)
       OPTION:____  PARMS:_____   _____
       MSG OR CMD:  _____

       _____
       LOG REQUESTS: *YES     CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
       CF6-DSPMSG QSYSOPR     CF7-DSPSBS          CF8-DSPSYS
```

Answers to the practice test questions:

	Option Code	Other Input Data
1.	1	parm 1—QBATCH
2.	2	parm 1—QPRINT
3.	4	parm 1—JUNK
4.	5	command input area — CHGJOB JUNK OUTPTY(2)

Pressing the CF3 key will remove the menu from the screen, and present the "command entry" display.
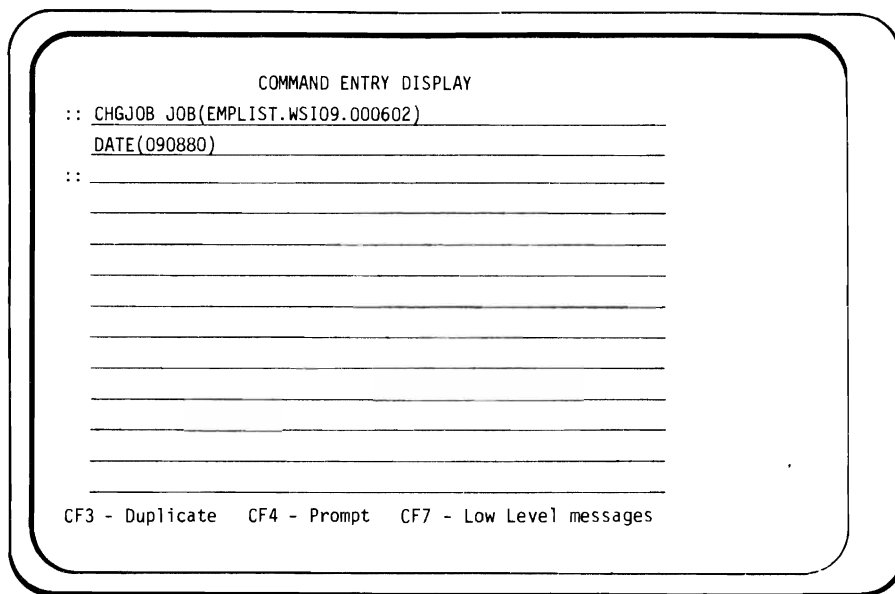
▶ Read the section in Chapter 6 in the System/38 Operator's Guide on "Using General Command Entry Facilities," up to the section on "Command Selection and Prompting."

For practice, try the following exercise:

The 'command entry' display is shown on your work station display as follows:

```
                    COMMAND ENTRY DISPLAY
::  _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____

CF3 - Duplicate    CF4 - Prompt    CF7 - Low Level messages
```

The task to be accomplished is to change the date used by the job EMPLIST to tomorrow's date (today is September 7, 1980). The user of the job is WSI09, and the number of the job is 000602. Use the System/38 CL Reference Manual for reference, and look at the CHGJOB command. Jot down on a sheet of paper the parameters (keywords and values) you think should be entered. When you have finished, turn to the next page and compare your answer with the one found there.

The CHGJOB command will change the date used by a job, and the only optional parameters necessary are the JOB keyword (with the qualified job name as the value (EMPLIST.WSI09.000602)) and the DATE keyword (with tomorrow's date (090880)) as the value. The other parameters default to the same value as is currently in effect. The command, as written, would be

```
CHGJOB JOB(EMPLIST.WSI09.000602) DATE(090880).
```

When entered onto the 'command entry' screen, the display would look like this:

```
                    COMMAND ENTRY DISPLAY
:: CHGJOB JOB(EMPLIST.WSI09.000602)
   DATE(090880)
::




CF3 - Duplicate    CF4 - Prompt    CF7 - Low Level messages
```

If the positional format were used instead of specifying the keyword (CHGJOB EMPLIST.WSI09.000602 090880), the second value given would apply to the JOBPTY keyword (it is the second keyword in the list) instead of the DATE keyword.

Had this format been entered on the display, and the enter key pressed, the system would have responded with an error message similar to the following:

```
LINE 01                    COMMAND ENTRY DISPLAY
     02    :: CHGJOB EMPLIST.WSI09.000602 090880
     03       VALUE FOR 'JOBPTY' NOT VALID
     04    ::
     05




              CF3 - Duplicate    CF4 - Prompt    CF7 - Low Level messages
```

The :: symbol would appear at the next input line (line 4 in the above example) waiting for either the next command to be entered, or if the message required a reply, the reply to the error message. Using the reading assignment for reference, answer on a sheet of paper the following practice test questions about the above screen display:

1. What are the two ways to resubmit the command in its correct form?

2. How can you view the command that was entered before the command on line 2?

3. If the CHGJOB command had been too long to fit on line 2, what special steps would have to be taken in order to enter the complete command?

When you have completed the practice test questions, turn to the next page and compare your answers to the solution found there.

Answers to the test questions:

1. a. rekey the entire command

   b. position the cursor under the 'C' in the "CHGJOB" command press cmd 3 (which would have copied the command as it was to line 4), and rekey only the invalid data

2. Press the 'roll down' key

3. No special steps are required: continue keying as if the line were continuous, and the system will position the cursor properly.

▶ Read the section in Chapter 6 of the System/38 Operator's Guide on "Example of Command Entry from the System Operator Menu" up to the section on "Example of Finding and Executing a Command from System Operator Menu". This reading assignment will show you more examples of the uses of the System Operator Menu and the Command Entry display.

If you were not sure what commands are available, and the parameters of the command, pressing CF4 will present a menu (Command Grouping Menu) showing the System/38 functions by functional groups. Selecting a function group (by entering an option code) will then present a list of commands that pertain to the function group selected. Selecting a command will then present a prompt for the parameters of that command.

▶ Read Chapter 6 in the System Operator's Guide, the section from "Command Selection and Prompting" up to the section on "Example of Command Entry from the System Operator Menu." This reading will discuss the use of the Command Grouping Menu.

When you are ready for the test item for this chapter, turn to the next page.

CHAPTER 5 — TEST ITEM

Using the reading assignment for reference, write the option code, any input data, and any command function keys needed for the following circumstances. Assume that the system operator menu is your display.

1. View all the messages that have been sent to the system operator

2. Determine the names of the jobs waiting to be processed by the QINTER subsystem

3. Determine what files are waiting to be produced when a writer is started for the QPRINTS output queue

4. Determine what jobs are currently being processed by which subsystem

5. Inform the person at work station #2 (WSI02) that the payroll is now done, and ask what you should do with the checks

6. Execute the program called JUNK

7. Cause the output from the output queue QPRINT to begin on the printer

8. Display the attributes of the spooled file named GOOD. The file belongs to job WSI04, the job number is 001234, and the user of the job is SYSOPR

9. Submit the job named TRY to the QBATCH subsystem for processing.

10. View the status of the system

11. Cause a job request to be read from a diskette named JOB

12. Cause the output being produced by writer QSYSPRT to cease

13. Stop any more job requests from being accepted by the diskette reader named READIT

14. Answer (on a sheet of paper) the following questions about the syntax diagram shown below:
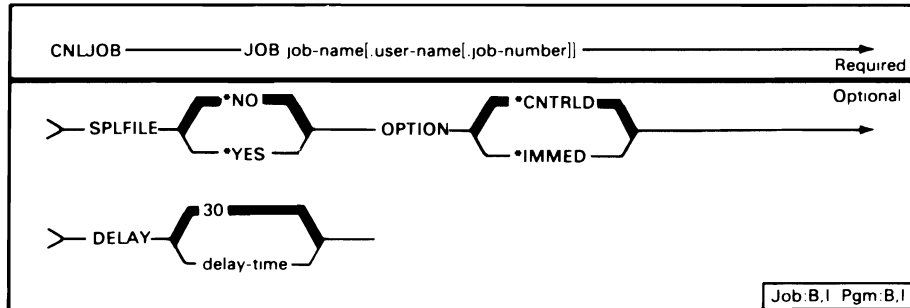
```
┌──────────────────────────────────────────────────────────────────────────┐
│                                                                            │
│  CNLJOB ───────────JOB job-name[.user-name[.job-number]] ─────────────►   │
│                                                             Required        │
├──────────────────────────────────────────────────────────────────────────┤
│              ┌─•NO─┐                      ┌─•CNTRLD─┐         Optional      │
│  >─SPLFILE───┤     ├───── OPTION──────────┤         ├────────────►         │
│              └─•YES─┘                     └─•IMMED──┘                       │
│                                                                            │
│              ┌─30──┐                                                        │
│  >─DELAY─────┤     ├─────                                                   │
│              └─delay-time─┘                                                 │
│                                                              ┌────────────┐ │
│                                                              │Job:B,I Pgm:B,I│ │
└──────────────────────────────────────────────────────────────────────────┘
```

   a. Which parameters are required, and which parameters are optional?

   b. What is the command name?

   c. What are the default values associated with the optional keywords?

   d. What are the allowable values that will be associated with the keyword "OPTION?"

15. If your display showed the command entry display shown below, at what line number would the next command be entered?

LINE 01
02
03
04
05

```
                    COMMAND ENTRY DISPLAY
:: STRSBS  SBSD(QSPL)
   SUBSYSTEM QSPL IN LIBRARY QGPL STARTED
:: _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____


   CF3 - Duplicate    CF4 - Prompt    CF7 - Low Level messages
```

16. If your display showed the command entry display shown below, and you wanted to display the status of job XYZ, what steps would you take to cause the correct command to be entered and processed?

```
LINE 01                    COMMAND ENTRY DISPLAY
     02   :: DSPJOB  JOBXY _____
     03      JOB JOBXY NOT FOUND _____
     04   :: _____
     05      _____
             _____
             _____
             _____
             _____
             _____
             _____
             _____
             _____
             _____

          CF3 - Duplicate   CF4 - Prompt   CF7 - Low Level messages
```

17. Which command function key will present the command grouping menu?

18. On the following command grouping menu, which option would lead to the 'display library' command?

```
                    COMMAND GROUPING MENU
          SELECT ONE OF THE FOLLOWING:
             1. ALL COMMANDS
             2. OBJECT AND LIBRARY
             3. DATA BASE
             4. DEVICE FILE
             5. DEVICE MANAGEMENT
             6. PROGRAMMING
             7. PROGRAM DEBUG
             8. MESSAGE HANDLING
             9. UTILITIES (IF INSTALLED)
            10. INPUT/OUTPUT SPOOLING
            11. SYSTEM AND JOB CONTROL
            12. SUBSYSTEM AND CLASS                          +
          OPTION:____  PARTIAL COMMAND NAME: _____ CF1 - RETURN
```

19. What parameters would be entered to cause a listing of the
    library 'OTWLIB'?

```
                         DISPLAY LIBRARY (DSPLIB) PROMPT
          ENTER THE FOLLOWING:
            LIBRARY NAMES:              LIB      P    *USRLIBL
                                        + FOR MORE
            OUTPUT (* OR *LIST):        OUTPUT   P    *
```

CHAPTER 5 — ANSWERS TO THE TEST ITEM

Cmd	Function Key	Option	Other Data
1.	6		
2.		1	parm 1—QINTER
3.		2	parm 1—QPRINTS
4.	7		
5.		3	parm 1—WSI02 parm 2—*INQ msg—'P/R is done — what do I do with the checks?' (your message content may differ)
6.		4	parm 1—JUNK
7.		7	parm 1—QSYSPRT parm 2—QPRINT
8.		5	cmd—DSPSPLFA GOOD WSI04.SYSOPR.001234 — or — CMD 3 and when command entry display appears, key the command in the entry input line
9.		6	parm 1—TRY
10.	8		
11.		9	parm 1—QDKT parm 2—JOB
12.		8	QSYSPRT
13.		10	parm 1—READIT

14. a. Required parameter is JOB; optional parameters are SPLFILE, OPTION, and DELAY

b. Command name is CNLJOB (cancel job)

c. Default values are SPLFILE-*NO, OPTION-*CNTRLD, and DELAY-30

d. Values that can be associated with the keyword 'OPTION' are *CNTRLD and *IMMED

15. The next command would be entered on line 4, identified by the symbol ::

16. Either (1) reenter the command — DSPJOB JOBXYZ or (2) press CMD 3 and duplicate the erroneous command to line #4, then correct the job name (add to 'Z' at the end) and press the enter/ record advance key to resubmit the command

17. CF4 presents the command grouping menu

18. Either option 1 or 2.

19. LIB <u>OTWLIB</u>
OUTPUT <u>*LIST</u>

If your answers agree, you have passed this test item and can continue on to the next chapter!

Otherwise, consult your reference material and try to determine why your answers did not agree. If you still have doubts, consult your advisor.

Chapter 6—Reassigning the System Operator Function and Messages

Reading Material

System/38 Operator's Guide

OBJECTIVE

Be able to list the following:

1. a. Four (4) types of messages

   b. Five (5) types of message queues

   c. Four (4) types of message delivery modes

   d. The delivery mode of the system operator message queue at sign-on

   e. The command, and the keywords associated with it, used to display messages

   f. The steps required to display a second level message

   g. The command, and the keywords associated with it, used to send a message to a particular work station

   h. The command, and the keywords associated with it, used to send a message to all work stations

2. The steps needed to reassign the system operator function to a 5251/5252 work station

When you sign on as the system operator at the console display, the system matches the system operator user profile to that device. As long as the operator is required to be in the general vicinity of the system unit (to make forms changes or diskette changes, etc.), it is convenient to enter the commands on the console display. However, when the system is at a point where processing can continue uninterrupted for a period of time, the operator is free to leave the general area, and may move some distance away to perform some other tasks. If there is a 5251/5252 work station available in that area, the system operator function can be transferred to that work station, and the system operator can monitor the progress of the system and be notified of any intervention that is required.

You assign the system operator function to a different display by signing off the display you are presently using, signing on as system operator at the display in the area you wish to be, and entering the CHGMSGQ command to set the system operator message queue to break or notify mode (more on message queues in a moment).

Any messages sent by the system to the system operator are routed to the system operator message queue, and sent to the device to which it is attached at the time. The messages are kept in a 'message queue'. Think of the queue as a mailbox, where letters, as they arrive, are stored until the person they are addressed to retrieves them.

▶ Read Chapter 11 of the System/38 Operator's Guide, up to the section on "Receiving and Displaying Messages." This reading assignment will explain more about messages and message queues.

Using the material that you have just read for reference, answer (on a sheet of paper) the following practice test questions:

1. Name two of the message types that you are likely to see.

2. If a second-level displayed message is accompanied by the identifier RPG0035, what does this mean?

3. A message in the system operator's queue with a severity code of 99 is a _____ message.

4. Name two message delivery modes.

5. What is the command used to change the delivery mode of a message queue?

6. If the system operator's message queue is set to the 'default' mode, where could you look to check for error messages?

Turn to the next page to check your answers with ours.

Answers to the practice test item are:

1. any two of the following — inquiry, reply, informational or sender's copy

2. the program named 'RPG' is sending the message, and it is the 35th message available to that program to send

3. manual action required

4. any two of the following — notify, break, hold, default

5. command to change the delivery mode is CHGMSGQ (change message queue)

6. system history log that can be displayed using the DSPLOG (display log) command

If your answers disagree, check the reference material again!

At various times during the day, the system operator may need to send messages to the users of the work stations. These messages may be about the status of a job or jobs, the status of the system, or a reply to a message sent by one of the users to the system operator.

▶ Read the rest of Chapter 11 of the System/38 Operator's Guide. This reading assignment will discuss sending and receiving messages.

When you have completed the reading assignment, try the following practice test items. You may use the reading assignment for reference.

1. If you are using the command entry display, where will a message appear?

2. What is the command (and its keywords) used to display a message queue?

3. If a first-level message that is displayed needs more explanation, positioning the cursor anywhere on the line under the message and pressing the _____ key will display the _____ .

4. The _____ command will send an imprompt message.

5. The _____ command will send a message, and force the break mode at the display station.

6. When the message queue is displayed, what command function keys are enabled?

When you have finished the practice test questions, turn to the next page and compare your answers to the solutions found there.

Answers to the practice test items:

1. message will appear on the next available line

2. the display messages (DSPMSG) command has the following
   keywords — MSGQ, MSGTYPE, START, SEV, and OUTPUT

3. help key will display the second-level message text

4. send message command (SNDMSG)

5. send break message command (SNDBRKMSG)

6. CMD 6 to delete one message, CMD 8 to delete all messages, CMD 7
   to display all messages

When you are ready for the test item for this chapter, turn to the next
page.

CHAPTER 6 – TEST ITEM

Using the reading assignments referenced in this chapter, list the following on a sheet of paper:

1. a. Four (4) types of messages

   b. Four (4) types of message queues

   c. Four (4) types of message delivery modes

   d. The delivery mode of the system operator message queue at sign-on

   e. The command, and the keywords associated with it, used to display messages

   f. The steps required to display a second level message

   g. The command, and the keywords associated with it, used to send a message to a work station

   h. The command, and the keywords associated with it, used to send a message that will be displayed immediately to all work stations

2. The steps needed to reassign the system operator function from the console to a 5251/5252 work station.

When you have finished the test, compare your answers with the ones found on the next page.

CHAPTER 6 — ANSWERS TO THE TEST ITEM

1. a. informational, inquiry, reply and sender's copy

   b. work station, user, system log and job

   c. break, default, hold and notify

   d. break mode

   e. display message command — DSPMSG

   f. If the first level message is currently displayed, position the cursor and press the help key. If the first level message is not currently displayed, position the cursor under the line in question and press the help key.

   g. send message command — SNDMSG keywords are —
      MSG TOMSGQ MSGTYPE RPYMSGQ

   h. send break message — SNDBRKMSG keywords are MSG
      TOMSGQ MSGTYPE RPYMSGQ

2. Sign off the console, sign on the work station as the system operator, and enter the CHGMSGQ command to set the system operator message queue to break or notify mode.

If you answers agree with the above, congratulations! You have passed this test item, and can proceed to the next chapter. If your answers do not agree with the above, consult your reference material and see if you can determine the differences. If you still have questions, ask your advisor for help.

Chapter 7—Subsystems and Job Processing

Reading Assignment

System/38 Operator's Guide

OBJECTIVES

Be able to:

1. Define a subsystem

2. List the subsystems that are supplied with the System/38

3. Draw a diagram that represents the flow of a batch job and of an interactive job through the system.

A subsystem of the System/38 is used to provide a specialized operating environment, and if properly implemented can affect the performance of the system as a whole. To help you understand what subsystems are, and how they process jobs, this chapter will define a subsystem, and then follow two types of jobs through the system.

An important factor in determining how fast a job is processed is the amount of main storage that is available for that job to use. If there were only one job request to be processed, that job could use all the main storage on the System/38 (see below).
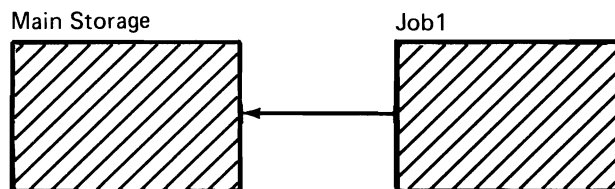
Main Storage   Job1

Under these circumstances the job would be completed in a very short time, because there would be no contention for main storage. If another job request were submitted while the first job was still processing, there would be no main storage available, and job #2 would have to wait until job #1 was completed (see below).

Job 1

Main Storage

Job 2
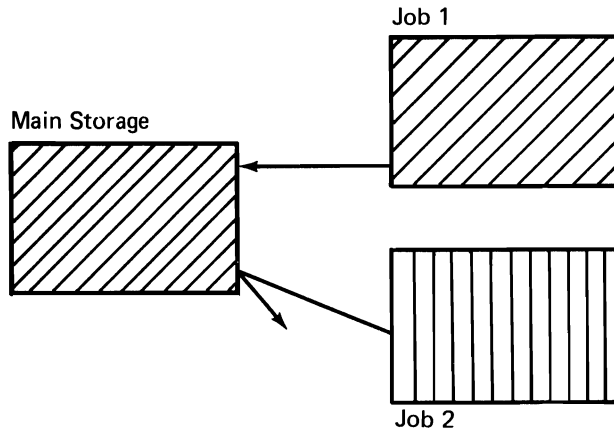
Setting a limit to the amount of main storage that any one job can use will allow both jobs to share main storage, and to process concurrently (see below).

Job 1

Main Storage

Job 2
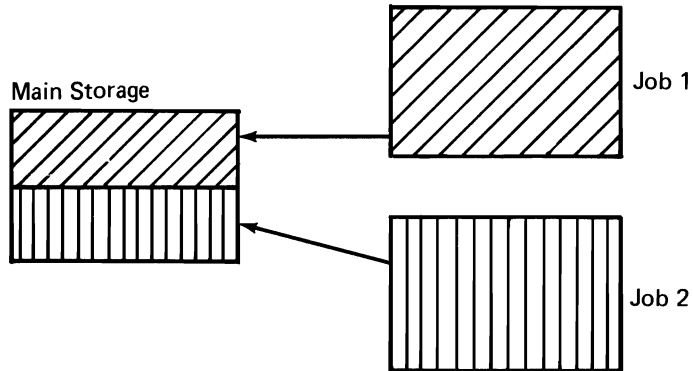
Separating all the jobs to be run into groups with like characteristics will identify the resources that are required and any other dependencies and priorities of each group. Assigning each group a unique area of main storage in which to be processed will avoid the contention problem. This area of main storage assigned to a group is called a subsystem. For example:

Main Storage

Group C ⟶   ⟵ Group A
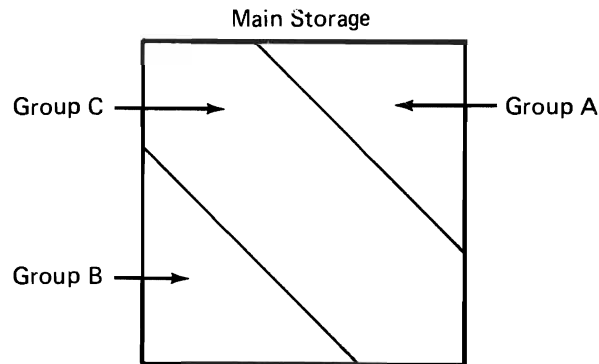
Group B ⟶

Group A — jobs that

- Have large volumes of input data

- Produce many printed pages

- Are dependent upon successful processing of a defined sequence of jobs

Group B — jobs that

- Have little or no input data

- Produce few or no printed pages

- Require immediate processing

Group C — jobs that control the processing of other jobs

▶ Read Chapter 8 of the System/38 Operator's Guide — the sections from "Subsystems" up to the "Starting and Terminating Subsystems." This reading assignment will identify the subsystems on the System/38, and some of their characteristics.

The first type of job to be discussed is one that is requested from a work station, or an interactive job. When the work station operator requests a job to be executed, that job request is submitted to an interactive subsystem, QINTER, which controls the work stations. An interactive job begins when the work station operator signs on, and terminates when the operator signs off. When the operator signs on and the job begins, the job description associated with that job is retrieved. The job description (similar to a subsystem description) contains some of the characteristics of how the job will be processed. This information is passed to QINTER subsystem. Retrieving the job description is required only once, when the operator signs on and the job is initiated.
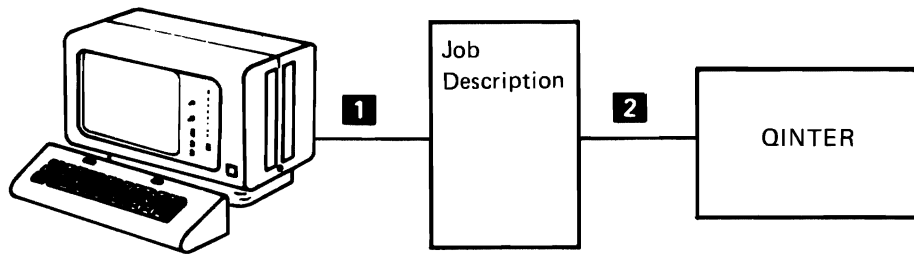
The diagram shows the steps that occur when the work station operator signs on and begins an interactive job: **1** the job description is retrieved and **2** that information is passed to the QINTER subsystem.

When the work station operator enters a request for the QINTER subsystem to process, that request goes directly to the subsystem. For example, the work station operator enters a request for the subsystem to retrieve information about customer number 1234 and display that information on the work station display. Because the job has already been initiated, and the information in the job description has been passed to the subsystem, the subsystem can process the request immediately.
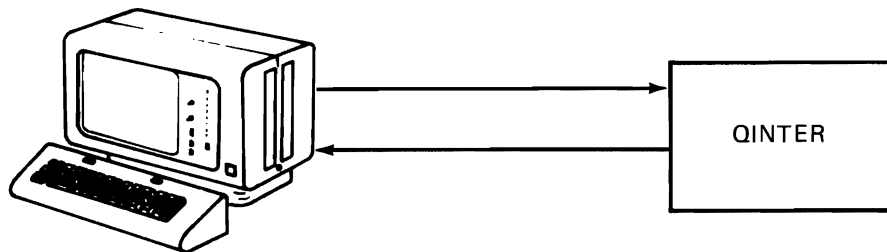
A batch job usually requires a longer amount of time to process because of the large volume of data records that are accessed. Also, the output of the batch job is a printed report or a diskette or card file. For example, a batch job might be to list all the customers that your company does business with. When a batch job is requested to be processed in the BATCH subsystem, the sequence of events differs from an interactive job.

A batch job is submitted by the system operator via a command that moves the job from the diskette, card or data base file to the subsystem. A function of the QSPL subsystem, called a reader, will move the job from the input device to the system. The job description for the job will be retrieved, and that information will be placed in the "in box" associated with the QBATCH subsystem. This "in box," which contains a list of the jobs waiting to be processed in the QBATCH subsystem, is called a job queue. Each subsystem has its own job queue.

1

2

| Job Description |

3

| Input Job Queue | - - - - - | QBATCH |

Job Queue

| LIST |

| QBATCH | - - - - →
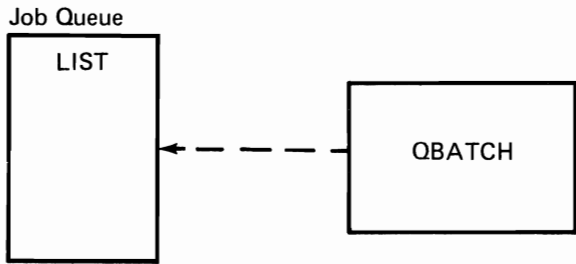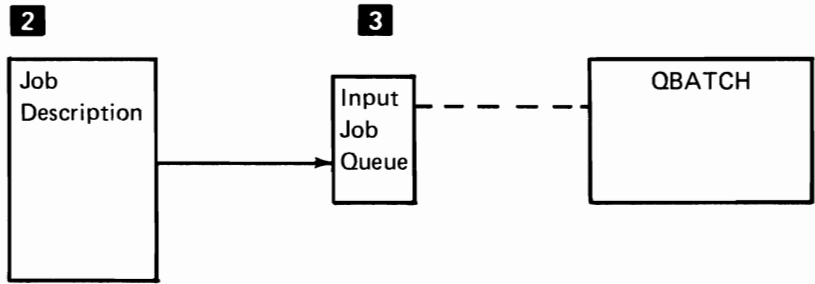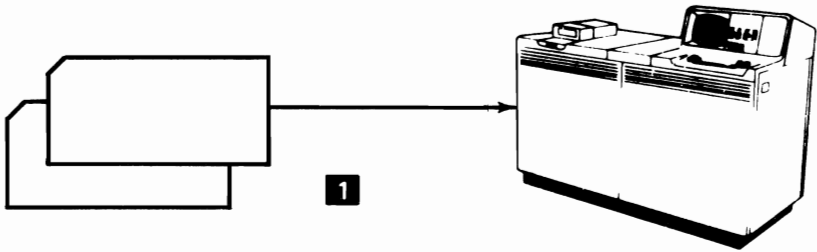
The QBATCH subsystem, when ready to process a job, constantly looks to its job queue to find out what jobs have been requested. A job is selected for processing by one of two methods: The first method being "first come, first served," and the second method is based on the characteristics assigned to that job. These characteristics have been determined from the job description that was retrieved when the job was put on the queue. One of these characteristics is a priority level. If the priorities are the same for all jobs on the queue, then the "first come, first served" method is used. If the priorities differ, the job with the highest priority is selected for processing first (the *lower* the priority *number* the *higher* the priority *level*).

QCTL1 JOBQ

	Priority		Priorities
JOB1	1	Highest	1
			2
JOB2	5		3
			4
JOB3	5		5
			⁓
		Lowest	9

In the above example, job #1 would be processed first, because the priority assigned to it is the highest priority of all of the jobs in the queue. If all priorities were 5, job #1 would still be the first to be processed because it is the first on the queue. Other types of characteristic data stored in the job description are:

- What resources, other than the work station, are needed for the output generated by the job

- If printed output is generated, how many copies are to be produced

- What is the maximum amount of time that the job can process before it will be cancelled by the system

- What is the maximum number of seconds that the job can process at one time before it must relinquish main storage to another job.

If the job produces output to a device that is not immediately avail-
able (printer or diskette drive), that output can be redirected from that
physical device and temporarily stored on auxiliary storage. When the
data is redirected to auxiliary storage, the name of the job and the
storage area is placed in an "out box" where a list of output requests to
be processed is held, or in other words, in an "output queue." An out-
put queue is generally associated with a particular device, and these
output queues are shared by all subsystems. The output will remain
on auxiliary storage until a command is issued to move the output to
the physical device. For example: **(A)** the job is to print a listing of
a selected group of customers and **(B)** that request is put on a job
queue (QBATCH), **(C)** when the job is selected for processing by the
QBATCH subsystem, **(D)** the printed data is temporarily written to
auxiliary storage and the name placed in an output queue. **(E)** At some
future time a command is entered (by the system operator) to move
the data from auxiliary storage to the printer.

	Job Queue QBATCH		Main Storage		Output Queue QPRINT		Printer
	CUST	→	QBATCH • • •	→	CUST	→	
(A)	**(B)**		**(C)**		**(D)**		**(E)**
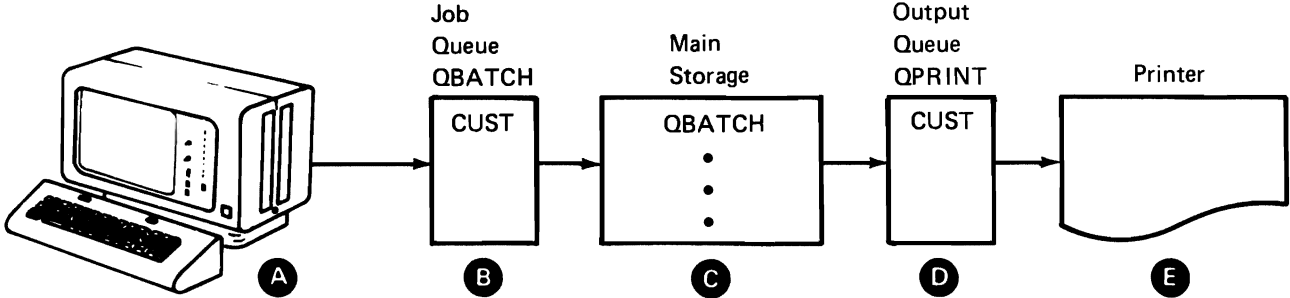
For example: **(A)** the system operator enters a job request into the diskette drive. The QSPL subsystem then is directed to read the request **(B)** and determines from the input data and the job description (stored on auxiliary storage) what subsystem will process the job. **(C)** QSPL then places the job request on the job queue assigned to the BATCH subsystem. When the BATCH subsystem is ready to process a job, it looks **(D)** at its job queue, and **(E)** selects the job based on the job's priority and/or sequence in the queue. The subsystem will then place the job in the assigned pool, where it will be processed. **(F)** The BATCH subsystem places the output generated by the processing on auxiliary storage, and places an entry in the output queue. **(G)** Then QSPL is directed to monitor the output queue, and **(H)** directs the output to the appropriate device (in this example the printer).
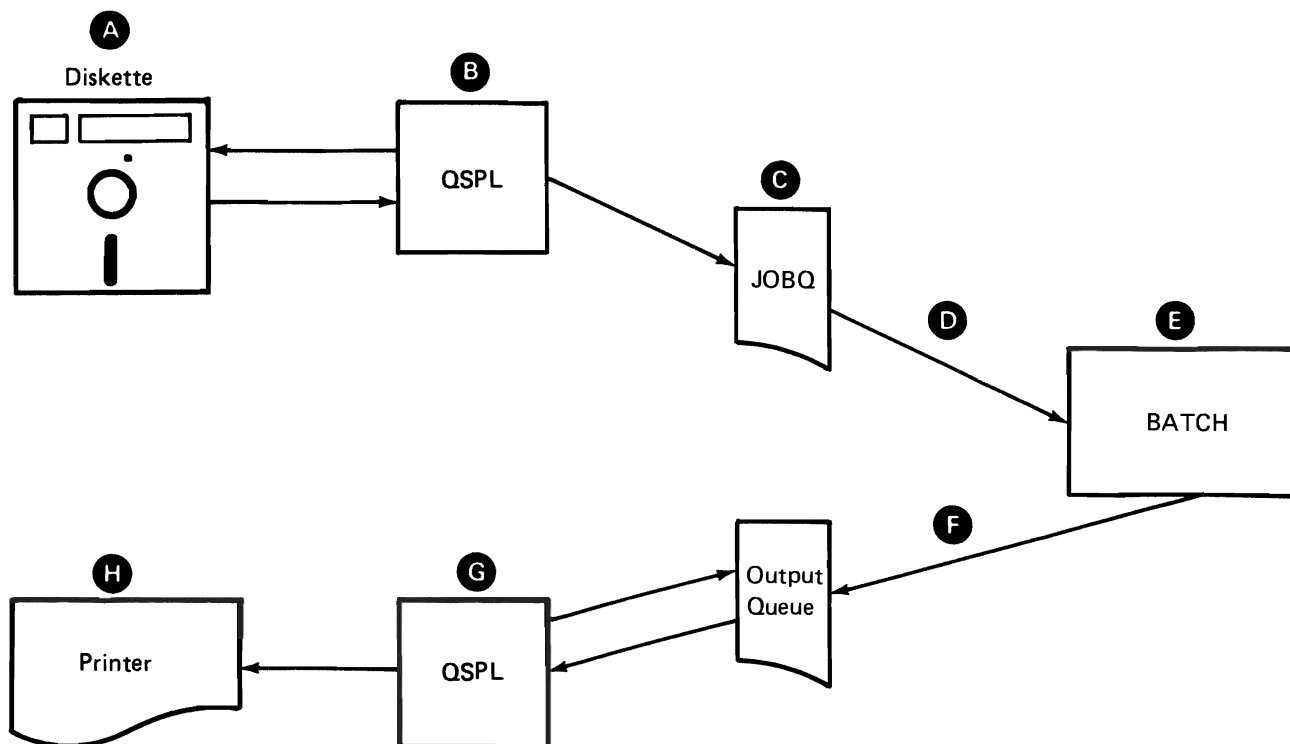
The submit job (SBMJOB) command entered at a work station will cause the job request entered for that work station to be placed on the QBATCH subsystem job queue, and the job will be processed by QBATCH instead of the QINTER subsystem. Once the job is on the job queue for QBATCH, the work station operator can enter other requests to be processed by QINTER at the same time as QBATCH is processing the job that was submitted to it. This command is used when the output of the program requires the printer or the diskette unit.

In other words, if the input and the output device is the work station, let QINTER process the job. If the input device is the work station and the output device is the printer or diskette, let QBATCH process the job.

To Review

An *interactive job* is active from the time the work station operators sign it on to the time they sign it off. At sign on, the job is initiated; that is, the job's description is retrieved and the information passed to the interactive subsystem (QINTER). All following requests are passed directly to the interactive subsystem, which processes them and routes the output data back to the work station.

A *batch job* is submitted by the system operator directly from his or her display station using the SBMJOB command or via the data base, the diskette drive or card reader. The QSPL subsystem, whose responsibility it is to monitor and control these devices, will pass the job to the system. The system will retrieve the job's description, and place the information on the job queue for the batch subsystem (QBATCH). QBATCH will select the job for processing based on the job's priority (determined from the job description) and/or the job's sequence on the queue. After processing is complete, the diskette, card, or printer output is placed in an output queue. The QSPL subsystem will move the output from the output queue to the physical device.

Turn the page for the test item for this chapter.

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CHAPTER 7 — TEST ITEM

On a sheet of paper:

1. *List* the definition of a subsystem

2. *List* the 5 subsystems that are supplied with the system

3. *Draw* a diagram that represents the flow of a job requested from a work station. This job produces no printer or diskette output.

4. *Draw* a diagram that represents the flow of a job requested from a work station that produces output to be written on a diskette.

5. *Draw* a diagram that represents the flow of a job that was submitted by the system operator via the diskette reader and that produces printed output.

Compare your lists and drawings to the ones on the next page.

CHAPTER 7 — ANSWERS TO THE TEST ITEM

1. A subsystem results from the division of main storage into sections, dependent on the characteristics of the jobs that are to run in them.

2. The subsystems that are supplied with the System/38 are:
QCTL, QSPL, QBATCH, QINTER, QPGMR.

3. Interactive Job

Work Station
```
JOBA
Input
```
→ Job Description → QINTER → Work Station
```
JOBA
Output
```
AT SIGN-ON

---- or ----

Work Station
```
JOBA
Input
```
→ QINTER → Work Station
```
JOBA
Output
```
AFTER SIGN-ON

---
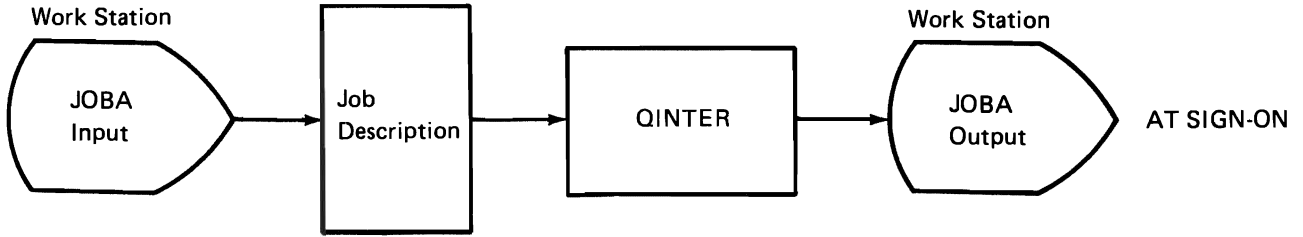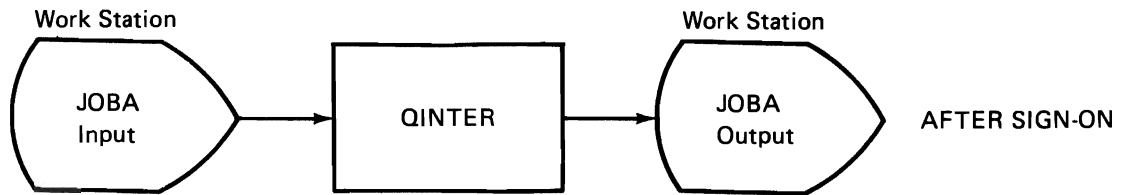
4. Batch Job from Work Station

Work Station
```
JOBB
Input
```
→ Input (job) Queue
```
JOBB
```
→ QBATCH
```
JOBB
```
→ Output Queue
```
JOBB
```
→ QSPL
```
JOBB
```

Diskette Output
```
JOBB
```

---
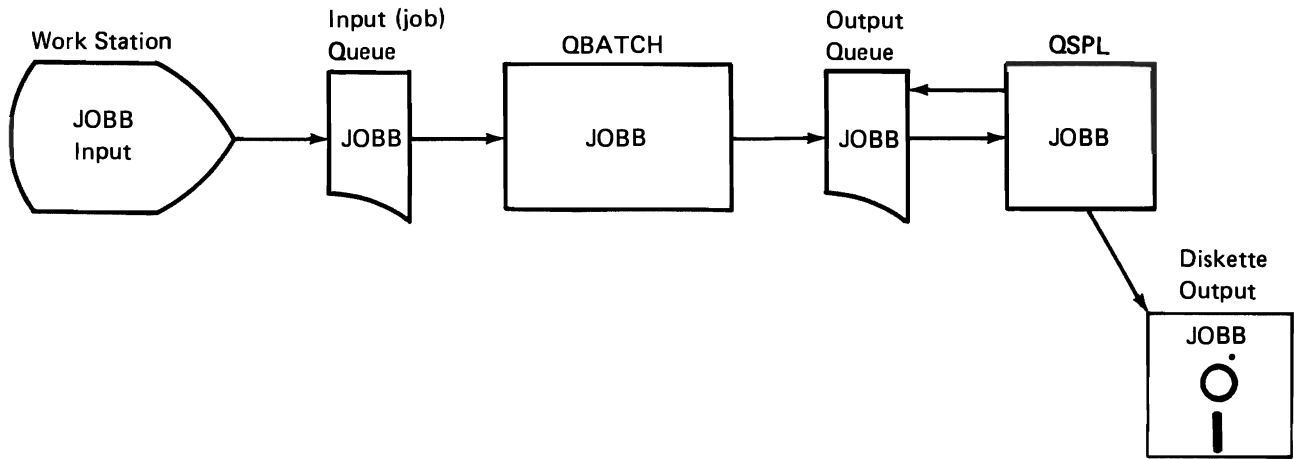
5. Batch Job from Diskette

Diskette Input
```
JOBC
```
→ QSPL
```
JOBC
```
→ Input (job) Queue
```
JOBC
```
→ QBATCH
```
JOBC
```
→ Output Queue
```
JOBC
```
→ QSPL
```
JOBC
```

Printer
```
JOBC
```
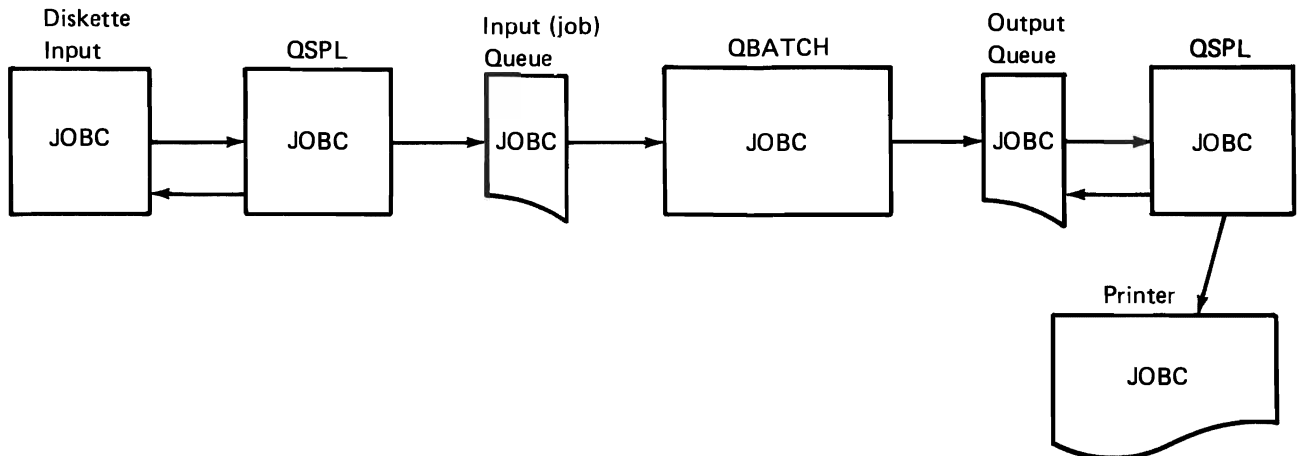
On the facing page is an overview of the flow of a batch job through the System/38. During the rest of this course, when a command is discussed, the step it pertains to will be identified by the letters Ⓐ through Ⓔ. You might find it helpful to remove the diagram so you can refer to it more easily.

SYSTEM/38 BATCH JOB FLOW OVERVIEW
(Shipped System)

(QDKT)

A Diskette Reader / QSPL

B Job Queue (QBATCH)

C Batch Processor / QBATCH

D Output Queue (QPRINT)

E Printer Writer (QSYSPRT) / QSPL

Printer (QSYSPRT)
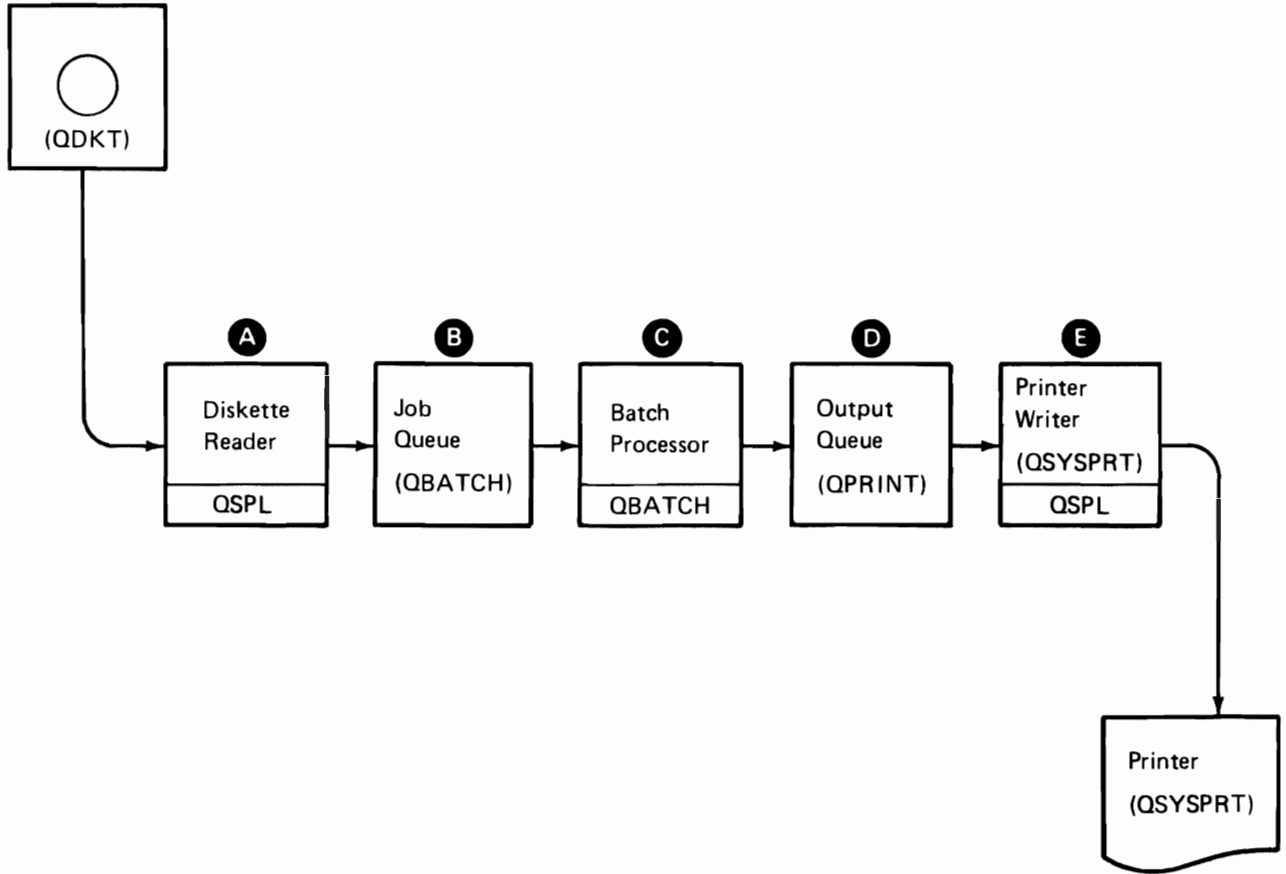
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Reading Material

System/38 Operator's Guide

OBJECTIVES

Be able to:

1. List the commands needed to start a subsystem

2. List the commands needed to terminate a subsystem

3. List the commands needed to display the system, the system status, and the subsystem status

4. Be able to identify the data on these displays: system status, subsystem, and system

There are three commands that will display the status of the system and of the subsystems. You will be using these commands to determine the status of jobs, what subsystems are active, what jobs are active in what subsystems, and the status of the system.

These commands are:

display system (DSPSYS)

display system status (DSPSYSSTS)

display subsystem (DSPSBS) **C**

▶ Read in Chapter 8 of the System/38 Operator's Guide—the sections from "Obtaining Information About the System" to "System Status Display."

Answers to the practice test questions are:

1.   QCTL, QBATCH, QSPL   40K

2.   2

3.   Move the cursor to the input field (underlined) next to the sub-system name, key the number 1 and press the enter key.

If your answers do not agree, review the section in Chapter 8 on the system display.

The next display to be discussed is the "system status" display. This display can be requested by pressing CF3 when the system display is shown, or by entering the command "DSPSYSSTS" on the command entry display.

▶ Read the section on "System Status Display" in Chapter 8 up to "Subsystem Display."

```
10/13/80  12:16:43    SYSTEM STATUS DISPLAY
Start: 12:14:34  Elapsed:    129.17    CPU use:    211.03 =  20%
Auxiliary storage used:  20%         Jobs in system:    12
SYS         DB     DB      NON-DB NON-DB  MAX  ACT->   WAIT->
POOL SIZE   FAULTS PAGES   FAULTS PAGES   ACT  WAIT    INELG
01   250K     .00   .00      .38    .41    5    .00      .00
02   150K     .05 12.03    15.84  35.30    6  21.38      .31




CF3 - System display   CF5 - Redisplay   CF6 - Reset start
```

Answer the following questions (about the above display) on a sheet of paper. Use the reading assignment for reference.

1. What is the percentage of CPU utilization?

2. How many jobs are in the system?

3. How many of the storage pools are active?

Compare your answers to the ones on the following page.

Answers to the practice questions are:

1. The CPU is 20% utilized.

2. There are 12 jobs in the system (a mixture of system and application jobs).

3. There are 2 storage pools active—pool 1 and pool 2

The last command available to help determine the system status is the "subsystem display." This display can be requested by entering the DSPSBS command on the command entry screen, or by pressing enter when the system display screen is shown.

▶ Read the sections from "Subsystem Display" up to the "System Logs" in Chapter 8 of the System/38 Operator's Guide.

```
01/20/81  14:46:17        SUBSYSTEM JOBS - QINTER  +++
  JOB NAME    USER        NBR    TYPE    STATUS
_ WSO1        QSECOFR     003383 INTER   ACTIVE
_ WSI06       QPGMR       003397 INTER   SYSREQ
_ WSI03       QPGMR       003398 INTER   ACTIVE
_ WSI06       QSECOFR     003401 INTER   ACTIVE




1-DSPJOB    2-SPL FILES   4-HLDJOB   6-RLSJOB   9-CNLJOB
CF5-REDISPLAY
```

Answer the following questions about the screen above on a sheet of
paper. Use the reading assignment for reference.

1.   How many subsystem names are displayed?

2.   How many job names are displayed?

3.   For the first job shown:
         Who submitted the job?
         What is its number?
         Is it active or held?

Compare your answers to the answers on the following page.

Answers to the questions:

1. 1 (QINTER)

2. 4

3. QSECOFR, 003383, Active

A subsystem must be started before any jobs assigned to that subsystem can begin processing. The exception to this rule is the controlling subsystem (QCTL) which is started automatically when the system operator responds to the 'start CPF' prompt during the startup procedure. When the command to start a subsystem is entered, a description of the environment that the subsystem requires (resources, priorities, etc.) is moved from auxiliary storage to the main storage that has been allocated to that subsystem. The ownership of the storage pools that have been assigned to that subsystem is then transferred to the subsystem. Jobs controlled by the subsystem can now be processed.

Auxiliary
Storage   Main Storage

```
   _____                    _____
  /        \                  | QBATCH Description        |    |
 |          |                 |---------------------------|    |
 |          |                 |                           |    |
 | QBATCH   |                 | POOLS                     |    |
 | Subsystem|                 |_____|    |
 | Description|               |                                |
 |          |                 |                                |
  _____/                  |                                |
                              |                                |
                              |_____|
```
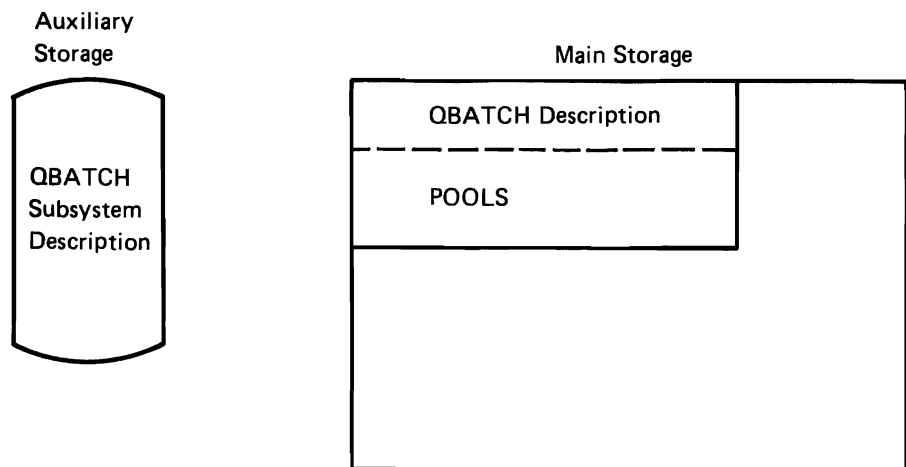
▶ Read the section from "Starting and Terminating Subsystems" up to "system values" in Chapter 8 of the System/38 Operator's Guide.

The command STRSBS SBSD(QBATCH) Ⓒ (start subsystem) will cause the subsystem description for QBATCH to move from auxiliary storage into main storage, and to activate the pools assigned to it. When this procedure is completed, the subsystem is ready to process the requests for jobs that will run in the QBATCH subsystem.

Jobs in the QBATCH subsystem usually have large volumes of input data and produce considerable printed output. These jobs are resident on diskette, card or a data base file, and are processed when the system operator enters the appropriate command.

The fourth subsystem to be started is the spooling subsystem—QSPL. The command to start the subsystem is STRSBS SBSD(QSPL). **A**—**E** This subsystem will recognize the job requests and direct them to the appropriate subsystems for processing. If any output is generated during that processing, the spooling subsystem will direct the output to the appropriate device.

When all processing is completed, or when there is a need to shut down a particular subsystem, use the terminate subsystem command — TRMSBS. **A** — **C** — **E**

If no options are specified with this command, all the jobs are allowed to complete before the actual termination of the subsystem. However, with the *IMMED option, all jobs are immediately cancelled and the subsystem terminated. DO NOT use this option without first display-ing the status of the subsystem to determine if there are any active jobs executing in it, and checking with your manager before entering this command. If there are active jobs and you must terminate a subsystem, specifying the *CNTRLD option will allow those jobs to complete before the subsystem is terminated. If the delay option is specified, the active jobs will be given the time specified to complete processing before they are cancelled. If the job cannot complete in the specified time, it will be cancelled. Use caution with both of these options!!

Proceed to the test item for this chapter.

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1. On a sheet of paper, list the following:

   a. The command needed to start a subsystem

   b. The command needed to terminate a subsystem

   c. The commands used to cause the following displays to be shown on a screen: subsystem display, system status, and system display

2. On a sheet of paper, answer these questions (pertaining to the following display) for each subsystem shown:

   a. The names of each subsystem, and the amount of main storage assigned to each subsystem

   b. The pools assigned to each subsystem (the number of the pool)

   c. How many jobs are active for each subsystem

```
10/24/79     10:32:00    SYSTEM DISPLAY

 SUBSYSTEM  SBSNBR  JOBS  STATUS  TOT STG  SYSTEM STG POOLS

 QSYSARB    001371        ACTIVE
_QSPL       001313  01    ACTIVE  0035 K      02  03
_QINTER     001311  04    ACTIVE  0340 K      02  04
_QCTL       001373  01    ACTIVE  0000 K      02


1-SUBSYSTEM JOBS    ·CF3-SYSTEM STATUS
```

When you are finished, compare your answers to the ones on the following page.

CHAPTER 8—ANSWERS TO THE TEST ITEM

1. a. The start subsystem command — STRSBS

    b. The terminate subsystem command — TRMSBS

    c. Subsystem display — DSPSBS
       System status display — DSPSYSSTS
       System display — DSPSYS

2. a. QSPL   35K
       QINTER   340K
       QCTL   uses *Base so amount is unknown

    b. QSPL   2,3
       QINTER   2,4
       QCTL   2

    c. QSPL   1
       QINTER   4
       QCTL   1

Reading Material

System/38 Operator's Guide

OBJECTIVES

Be able to:

1. List the commands needed to display job queues for a given set of circumstances

2. Answer a series of questions pertaining to a given set of displays

At various times during the day, there may be a need to determine what jobs are in the system, either waiting to be processed or waiting for the output to be directed to a device. The display job queue command (DSPJOBQ) **Ⓑ** will provide information about all active job queues in the system if the default is used. The display output queue command (DSPOUTQ) **Ⓓ** will display information about the active output queues.

▶ Read Chapter 10 of the System/38 Operator's Guide from the section on "Determining Queue Status" up to the section on "Using the Output Queue Display." This reading assignment will give you the information necessary to interpret the display formats.

Using the reading assignment for reference, try your hand at answering the following practice test questions:

Practice test questions:

1. On a sheet of paper, list the commands that will
   a. Display all the job queues
   b. Print the status of all the job queues
   c. Display the status of all the output queues
   d. Display the status of the output queue named DSKOUT
   e. Display the status of all the jobs on the output queue named DSKOUT
   f. Display which job queue is assigned to which subsystem

2. Write the answers on a sheet of paper for the questions listed under each of the following displays:

```
01/09/81    9:06:01        JOB QUEUES
  QUEUE NAME    LIBRARY     JOBS   SUBSYSTEM   STATUS
_ QBATCH        QGPL           3   QBATCH
_ QSPL          QGPL           1   QSPL
_ NIGHTJ        QGPL          11               HELD
_ QCTL          QGPL           0   QCTL1




1-DSPJOBQ    4-HLDJOBQ    6-RLSJOBQ    CF5-REDISPLAY
```

   a. What is meant by the NIGHTJ queue being held?
   b. How many jobs are on the queues, waiting to be processed?
   c. How do you return to the previous display or menu?

```
┌─────────────────────────────────────────────────────────┐
│  11/19/79  08:35:00      JOBQ-QBATCH     LIBRARY-QGPL     │
│     JOB NAME      USER           NBR     PTY    STATUS    │
│   ‗ PRTORDERS     QPGMR        000763      7    HELD       │
│   ‗ COPYFILE      QUSER        000807      7              │
│   ‗ TSTPGM1       QPGMR        000906      7              │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
│    1-DSPJOB    4-HLDJOB    6-RLSJOB    9-CNLJOB    CF5-REDISPLAY │
└─────────────────────────────────────────────────────────┘
```

d. What jobs has the QPGMR requested to be processed?

e. Which job will be processed first?

```
┌─────────────────────────────────────────────────────────┐
│  01/09/81    9:09:47        OUTPUT QUEUES                 │
│     QUEUE NAME    LIBRARY     FILES   WRITER      STATUS   │
│   ‗ QPRINT        QGPL          7     QSYSPRT            │
│   ‗ QPRINT2       QGPL          0                        │
│   ‗ QPRINTS       OGPL          0                        │
│   ‗ QPUNCH        QGPL          5     QCARD96            │
│   ‗ QDKT          OGPL          1                 HELD   │
│   ‗ DEPT72        DEPT72        8                        │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
│    1-DSPOUTQ    4-HLDOUTQ    6-RLSOUTQ    CF5-REDISPLAY   │
└─────────────────────────────────────────────────────────┘
```

f. Which queues have writers assigned to them?

g. Which queue is in a held state?

h. What is different about the DEPT72 queue?

```
11/19/80  07:32:57          OUTQ - QPRINT        LIB - QGPL
   FILE NAME   NBR  JOB NAME   USER     NBR    PTY  RCD/PAG  STS
   QPRINT      0001 TSTPGM     QPGMR    000175 7        5P   WTR
 _ QPRINT      0003 TSTPGM     QPGMR    000175 7        1P   RDY
 _ QFLDPRT     0004 TSTPGM     QPGMR    000175 7       43P   HLD
 _ QPRINT      0001 COPYFILE   QPGMR    000191 7       25P   CLO
 _ QPRINT      0002 COPYFILE   QPGMR    000191 7             OPN
 _ ERRORDS     0001 PRTORDERS  QUSER    000211 8        1P   HLD
 _ ORDERS      0002 PRTORDERS  QUSER    000211 8      425P   RDY




   1-DSPSPLF    2-DSPSPLFA    4-HLDSPLF    6-RLSSPLF    9-CNLSPLF
   CF5-REDISPLAY
```

i. Which job is currently being produced?

j. Which job or jobs have an output priority of 8?

k. How many jobs are in the queue?

Turn the page for the answers to the test questions.

Answers to the practice test questions.

1. a. Display all input job queues — DSPJOBQ

   b. Print all job queues — DSPJOBQ OUTPUT(*LIST)

   c. Display all output queues — DSPOUTQ

   d. Display output queue 'dskout' — DSPOUTQ OUTQ(DSKOUT) or DSPOUTQ DSKOUT

   e. Display all jobs on the output queue DSKOUT — same as above (d)

   f. Display which queue is assigned to which subsystem — (DSPJOBQ)

2. a. No jobs on the queue will be processed until the queue is released

   b. 15 jobs are waiting to be processed

   c. Press the enter key

   d. QPGMR has requested PRTORDERS and TSTPGM1

   e. COPYFILE will be processed first — PRTORDERS is held so therefore COPYFILE is next in line

   f. QPRINT and QPUNCH

   g. QDKT

   h. DEPT72 is in a different library than the other jobs

   i. The first job on the display is currently being produced TSTPGM

   j. The job PRTORDERS has a priority of 8 — the job has two files to be produced on the printer

   k. Three jobs in the queue — all have multiple files to be output on the printer

If your answers agree with the above, proceed on to the test item for this chapter. If they didn't agree, review the reading assignment and the test questions again to determine the problem areas. If there is still a question, consult your advisor.

CHAPTER 9—TEST ITEM

Using the System/38 Operator's Guide for reference, list on a sheet of paper the answers to the following questions:

1.   a. The command to display all the job queues

    b. The command to display all the output queues

    c. The command to determine the jobs in the QBATCH output queue

    d. The command to determine the jobs in the QBATCH job queue

    e. The command to determine how many jobs are waiting to be processed

The following questions pertain to the displays that precede each set of questions.

```
        11/17/79  08:25:00    JOBQ - QBATCH    LIB-QGPL

    Job Name    User        Nbr       Pty  Status
 _  PAYREG      QUSER       000550     5    Ready
 _  DEDREG      QUSER       000620     5    Ready
 _  CHECKS      QUSER       000675     5    Ready
 _  EMPLST      QUSER       000700     2    Ready
 _  HSTLST      QUSER       000504     5    Held




 1-DSPJOB    4-HLDJOB    6-RLSJOB    9-CNLJOB    CF5-REDISPLAY
```

    f. Which job will be processed first?

    g. Which job, DEDREG or HSTLST, will be processed first and why?

    h. How many jobs in the queue will be processed?

```
01/09/81    9:06:01        JOB QUEUES
   QUEUE NAME    LIBRARY     JOBS    SUBSYSTEM    STATUS
 _ QBATCH        QGPL          3     QBATCH
 _ QSPL          QGPL          1     QSPL
 _ NIGHTJ        QGPL         11                  HELD
 _ QCTL          QGPL          0     QCTL1




 1-DSPJOBQ    4-HLDJOBQ    6-RLSJOBQ    CF5-REDISPLAY
```

i. Which subsystem is the NIGHTJ queue associated with?

j. Which library are the queues in?

k. Which queue has no jobs in it?

```
11/19/80  07:32:57        OUTQ - QPRINT          LIB - QGPL
   FILE NAME   NBR  JOB NAME   USER      NBR    PTY RCD/PAG  STS
   QPRINT      0001 TSTPGM     QPGMR    000175  7       5P   WTR
 _ QPRINT      0003 TSTPGM     QPGMR    000175  7       1P   RDY
 _ QFLDPRT     0004 TSTPGM     QPGMR    000175  7      43P   HLD
 _ QPRINT      0001 COPYFILE   QPGMR    000191  7      25P   CLO
 _ QPRINT      0002 COPYFILE   QPGMR    000191  7            OPN
 _ ERRORDS     0001 PRTORDERS  QUSER    000211  8       1P   HLD
 _ ORDERS      0002 PRTORDERS  QUSER    000211  8     425P   RDY




 1-DSPSPLF    2-DSPSPLFA    4-HLDSPLF    6-RLSSPLF    9-CNLSPLF
 CF5-REDISPLAY
```

l. What is meant by the file #2 of the job COPYFILE being open?

m. What is the difference between a priority of 8 and a priority
    of 7?

n. What is meant by file #1 of the job TSTPGM being in writing
    mode?

```
01/09/81    9:09:47        OUTPUT QUEUES
   QUEUE NAME   LIBRARY     FILES   WRITER      STATUS
_  QPRINT       QGPL        7       QSYSPRT
_  QPRINT2      QGPL        0
_  QPRINTS      OGPL        0
_  QPUNCH       QGPL        5       QCARD96
_  QDKT         OGPL        1                   HELD
_  DEPT72       DEPT72      8




1-DSPOUTQ   4-HLDOUTQ   6-RLSOUTQ   CF5-REDISPLAY
```

o. Which queue has the most files to be produced?

p. Which queue is the writer QCARD96 associated with?

q. Which queue is held?

When you have finished the test item, turn to the next page for the answers.

CHAPTER 9—ANSWERS TO THE TEST QUESTIONS

1. a. DSPJOBQ
    b. DSPOUTQ
    c. DSPOUTQ OUTQ(QBATCH) or DSPOUTQ QBATCH
    d. DSPJOBQ JOBQ(QBATCH) or DSPJOBQ QBATCH
    e. DSPJOBQ
    f. Job EMPLST will be processed first—priority of 2 is higher than priority of 5
    g. Job DEDREG will process first—HSTLST is in a hold mode
    h. 4 will be processed—HSTLST is in a hold mode
    i. Cannot tell from the display
    j. The library QGPL
    k. QCTL has no jobs
    l. The output file is still being processed
    m. Jobs with a priority of 7 will be processed before the jobs with a priority of 8
    n. The output is being produced by a writer
    o. DEPT72 has 8 files to be produced
    p. QPUNCH
    q. QDKT

If your answers agree—congratulations! You may proceed to the next chapter.

If your answers did not agree, see if you can determine the reason for the differences by consulting the reference manual. If there is still a doubt, ask your advisor for clarification.

Chapter 10—Controlling the Queues

Reading Material

System/38 Operator's Guide

OBJECTIVES

Be able to write the commands needed to:

1. Start, release, hold and cancel readers, writers, jobs and queues

2. Change job attributes on a job queue

The spooling subsystem's responsibilities have been defined as 1) accepting job requests and placing them on the correct subsystems job queue, and 2) directing the output requests from the output queue to the specific device required. QSPL must be directed as to which device to interrogate for the job requests. The QSPL function that will recognize a job request is called a *reader*. The start reader command will direct the reader function to look for job requests on either the card device, the diskette device or a data base file (a job request that has been placed in auxiliary storage) and place the job request on the job queue identified in the job description. The start writer command will direct the writer to move the data found in an output queue to a physical device (such as a printer).

▶ Read Chapter 10 of the System/38 Operator's Guide up to the section on "Determining Queue Status."

▶ Next, read the section of Chapter 10 in the System/38 Operator's Guide on "Controlling Readers and Writers"—up to the section on "Holding a Spooled File."

To put these commands and terminology into perspective, the next few paragraphs will apply the information covered in the reading assignment to a job request as it flows through the system. To set the scene: the job request is on a diskette (labeled TEST) which will be put into slot #1 of the diskette drive. The job description for the job TRAIN specifies an execution (processing) priority of 4 and an output priority of 5, the job queue of QBATCH, and the output queue of QPRINT. Assume that the system has been powered on and started-up for the morning, so that the QCTL subsystem is active. The spool subsystem will be started by entering the start subsystem command (STRSBS QSPL). **(A)** — **(E)**The system operator places the diskette labeled TEST into slot #1 of the diskette drive, and starts a spool reader by entering the start reader command (STRDKTRDR QDKT TEST LOC(*S1)). **(A)** — **(B)** The job request (TRAIN) is now on the job queue QBATCH. Entering the display job queue command (DSPJOBQ QBATCH) **(B)** will cause the following display to be shown:

```
04/30/80   14:50:00   JOBQ-QBATCH   LIB-QGPL

 JOB NAME     USER     NBR     PTY     STATUS
_ TRAIN       QSYSOPR  000123  5




1-DSPJOB    4-HLDJOB    6-RLSJOB    9-CNLJOB    CF5-REDISPLAY
```

The job status is blank, which means that the job will be processed when the request is recognized by the subsystem. The job can be held, or temporarily suspended, by entering the hold job command (HLDJOB TRAIN). If the job queue was displayed again, the status of the job would have changed, as shown in the display below:

```
04/30/80  14:50:00   JOB QUEUE-QBATCH  LIBRARY-QGPL

   JOB NAME     USER    NBR      PTY    STATUS
_  TRAIN        QSYSOPR 000123   5      HELD







   1-DSPJOB    4-HLDJOB    6-RLSJOB    9-CNLJOB    CF5-REDISPLAY
```

Before it is possible for the job to be processed, the status of the job must be changed from 'held' to 'ready' by the release job command (RLSJOB TRAIN). Also, the batch subsystem must be started by the start subsystem command (STRSBS QBATCH). **C** The job will now be processed by the BATCH subsystem, and placed on the QPRINT output queue. If the display output queue command (DSPOUTQ QPRINT) **B** was entered, the following display would be shown:

```
04/30/80  14:58:00           OUTQ-QPRINT  LIB-QGPL

   FILE NAME NBR  JOB NAME    USER    NBR   PTY RCD/PAG  STS
   QPDSPLIB  0001  TRAIN  QSYSOPR 000123  5         2P  RDY








   1-DSPSPLF   2-DSPSPLFA   4-HLDSPLF   6-RLSSPLF   9-CNLSPLF
   CF5-REDISPLAY
```

This display reflects that the output generated by the processing of the job TRAIN is now on the output queue QPRINT, waiting to be moved to the output device. Entering the start writer command (STRPRTWTR QSYSPRT QPRINT) **E** will cause this move to take place, and the output will be produced on the printer.

Entering the display output queue command (DSPOUTQ) without parameters **B** will cause the following display to appear.

```
01/09/81   9:09:47        OUTPUT QUEUES
   QUEUE NAME   LIBRARY   FILES  WRITER      STATUS
_  QTOUTQ       OTWLIB      1                HELD
_  QPRINT       QGPL       10    QSYSPRT
_  QPRINTS      QGPL        0




   1-DSPOUTQ   4-HLDOUTQ   6-RLSOUTQ   CF5-REDISPLAY
```

This display shows that the writer QSYSPRT is available to produce the output from the queue QPRINT. Entering the hold writer command (HLDWTR) **E** will suspend the production of the output. The release writer command (RLSWTR) **E** will reactivate the writer. Assuming that there will be no other work for the writer to do, the cancel writer command (CNLWTR) **E** will remove the function from the system. The reader would have terminated after the job request had been read. If for any reason the reader would have to be suspended or terminated by the system operator, the cancel reader (CNLRDR) **A** or the hold reader command (HLDRDR) **A** could be entered. If the reader had been held, the release writer command (RLSWTR) **E** would be used to reactivate the function. If the cancel reader command had been entered, that function would have been removed from the system.

```
┌─────────────────────────────────────────────────────────────┐
│                                                               │
│   01/09/81  9:57:18       JOB DEFINITION ATTRIBUTES    +++     │
│   JOB: TRAIN        USER: QSYSOPR    NBR: 000123              │
│     JOB QUEUE NAME:              JOBQ                         │
│       LIBRARY NAME:                                           │
│     JOB PRIORITY (ON JOBQ):      JOBPTY                       │
│     OUTPUT PRIORITY (ON OUTQ):   OUTPTY    5                  │
│     CANCEL SEVERITY:             CNLSEV    90                 │
│     JOB LOGGING (LVL SEV TEXT):  LOG       1  10 *MSG         │
│     DEFAULT OUTPUT QUEUE NAME:   OUTQ      OTOUTQ             │
│       LIBRARY NAME:                        OTWLIB            │
│     JOB DATE:                    DATE      05/20/80           │
│     JOB SWITCHES:                SWS       00000000           │
│                                                               │
│                                                               │
│                                                               │
│                                                               │
│   CF5-REDISPLAY    CF10-MENU                                  │
│                                                               │
└─────────────────────────────────────────────────────────────┘
```

If the display job command (DSPJOB TRAIN) was entered before the
processing completed, the above display would be shown. This display
would only be available if the job was somewhere within the system, in
other words between the time the job is read by a reader and the time
that the output has been produced. This display would tell the status
of the job and where in the system the job was when the command was
entered. You, as the system operator, may use this display as a means
to determine the priorities assigned to the job, the queues the job will
be using, and/or the number assigned to the job by the system.

By referencing the area labeled status, you can determine where in the
system the job is—if the status says JOBQ, that means that the job is on
the job queue named in the lower right hand of the display, waiting to
be processed. While the job is on the job queue, some of the attributes
can be changed which would cause the job to be processed differently.
These attributes are: job priority, output priority, log level, output
queue, date and switches. The change job command (CHGJOB) would
be the vehicle used to make these changes. If the job is currently being
processed, the only attributes that could be changed are: output
priority and output queue. If the job is currently on an output queue,
the command could only change the output priority, or if required,
move the output to another output queue.

The job could be temporarily suspended from further processing by
the hold job command (HLDJOB), made available for further processing
by the release job command (RLSJOB), and removed from the system
by the cancel job (CNLJOB) command.

Queues can also be temporarily suspended by entering the 'hold queue' command. A job queue can be suspended by entering the 'hold job queue' (HLDJOBQ) **B** command, and an output queue by entering the 'hold output queue' (HLDOUTQ) **D** command. When the queue is suspended, there cannot be any further processing of the entries on the queue. To activate entries on a queue, enter the "release queue" command. Entries in an input job queue can be activated by the "release job queue" (RLSJOBQ) **B** command, and entries in an output queue by the "release output queue" (RLSOUTQ) **D** command.

All job requests on a queue can be removed from the system by entering the clear queue command. The "clear job queue" (CLRJOBQ) **B** will remove all the job requests that are waiting to be processed, and the "clear output queue" (CLROUTQ) **D** will remove all the output generated during the processing of job requests.

If you feel confident that you understand the commands and their uses, turn to the test item for this chapter. Otherwise, continue with the practice test question and/or review the reading assignment.

Practice test questions:

List the answers to the following questions on a sheet of paper (use the Operator's Guide for reference):

1. The command used to read a job request from a diskette (LIST) in slot #1 of the diskette drive

2. The command used to display the job queue named SPECIAL

3. The command to release the job EMPLST

4. The command used to determine the job queue of the job EMPLST

5. The command used to display the output queue SPECIAL

6. The command used to produce output on the printer from the queue QPRINT

7. The command used to terminate a writer named QSYSPRT

When you have finished the practice questions, compare your answers with the ones on the next page.

Answers to the practice test questions:

1. STRDKTRDT QDKT LIST LOC(*S1)

2. DSPJOBQ SPECIAL

3. RLSJOB EMPLST

4. DSPJOB EMPLST

5. DSPOUTQ SPECIAL

6. STRPRTWRT QSYSPRT QPRINT

7. CNLWTR QSYSPRT

Your answers may vary from the suggested solutions in that you used the keyword-with-value format instead of the positional format, and/or you coded the optional parameters. If there are any other discrepancies, consult the reference material and/or your advisor.

When all discrepancies have been resolved, turn to the test questions for this chapter.

CHAPTER 10—TEST QUESTIONS

Using the reading assignment from Chapter 10 for reference, write (on a sheet of paper) the commands used to:

1. Start a diskette reader to read a job on the diskette in slot #3 under the label TEST

2. Temporarily suspend the reader READIT

3. Reactivate the reader READIT

4. Remove the reader READIT function from the system

5. Start a printer writer from the queue OUT

6. Suspend output being produced by the writer named QSYSPRT

7. Reactivate the writer named QSYSPRT

8. Terminate the writer QSYSPRT

9. Suspend the processing of the job LIST

10. Reactivate processing of the job LIST

11. Remove the job LIST from the system

12. Determine both the job priority and the output priority of the job LIST

13. Suspend processing from the job queue JUNK

14. Reactivate processing from the output queue JUNK

15. Remove all job requests from the job queue QBATCH

16. Remove all the output files from the output queue QPRINT

ANSWERS TO THE TEST QUESTIONS

1. STRDKTRDR QDKT TEST LOC(*S3)
2. HLDRDR READIT
3. RLSRDR READIT
4. CNLRDR READIT
5. STRPRTWTR QSYSPRT OUT
6. HLDWTR QSYSPRT
7. RLSWTR QSYSPRT
8. CNLWTR QSYSPRT
9. HLDJOB LIST
10. RLSJOB LIST
11. CNLJOB LIST
12. DSPJOB LIST
13. HLDJOBQ JUNK
14. RLSOUTQ JUNK
15. CLRJOBQ QBATCH
16. CLROUTQ QPRINT

If you have used the keyword-with-value format, that's ok. Also, if you have listed the optional parameters, that's ok, too. If your answers agreed with the solution, continue to the next chapter. If you have any questions, consult the reference material to determine the correct solution. If you cannot resolve the question, ask your advisor for assistance.

Reading Material

System/38 Operator's Guide

OBJECTIVES

Be able to:

1.   Write the commands needed to display, hold, release, cancel and change a spooled file

2.   Write the commands needed to change and display an output queue

3.   Write the commands needed to change the attributes of a job when it is in an output queue

As discussed in preceding chapters, output generated during the processing of jobs will remain on the output queue until a writer is started from that queue to a device. While the output is on the queue, it can be viewed, cancelled or changed.

▶ Read in Chapter 10 of the System/38 Operator's Guide, the sections from "Holding a Spooled File" to "Changing an Output Queue" and the sections from "Output Queue Displays" to "Controlling Readers and Writers."

The display output queue command (DSPOUTQ) **D** can be used to
determine what files are on the queue, and the status of those files.
For example—entering the command DSPOUTQ QPRINT would result
in the following display:

```
  11/06/79   8:54:51           OUTQ - QPRINT       LIB - QGPL
    FILE NAME  NBR  JOB NAME   USER        NBR    PTY RCD/PAG   STS
  _ QSYSPRT    0001 QCONSOLE   QSECOFR     001629 5        1P   RDY
  _ QPRINT     0001 WS01       OTUSER1     001578 5        1P   RDY
  _ QPSRVDMP   0014 WS01       QSECOFR     001552 5             OPN
  _ QPSRVDMP   0008 WSI03      QSECOFR     001549 5             OPN
  _ QPSRVDMP   0004 WSI11      QSECOFR     001551 5             OPN
  _ QPSRVDMP   0008 WSI10      QSECOFR     001540 5             OPN
  _ QPSRVDMP   0011 WSI05      QSECOFR     001534 5             OPN




  1-DSPSPLF    2-DSPSPLFA    4-HLDSPLF    6-RLSSPLF    9-CNLSPLF
  CF5-REDISPLAY
```

This display shows that there are two files ready to be produced on the printer, and that there are 5 files that output is still being added to.

The display spooled file command (DSPSPLF) **D** will allow the contents of any of the files to be displayed on the work station or console display. This command would be useful if for some reason the printer was not available to produce the hard copy and you had a reason to view the output of a particular job. Entering the following command:

```
DSPSPLF FILE(QPRINT)  JOB(WSO1.OTUSER1.001578)
```

on the command entry display (or entering a '1' on the DSPOUTQ display) will cause the contents of that file to be shown; for example:

```
  11/06/79           FILE - QPRINT        NBR - 0001  RECORD:       1
  ROLL: 0001
                              NEW CUSTOMER LISTING
       DATE 11/06/79

       CUST. NO.            CUST. NAME              STREET ADD
       RESS                 CITY / STATE               ZIP

        999999          JOHN JONES CO.             1001 ANY ST
       REET                 ANYTOWN, USA               12345

        888888          SMITH AND CO.              345 SOME ST
       REET                 SOME TOWN, GA.             88773
```

If the file had been written to the printer, the report would look like this:

```
            NEW CUSTOMER LISTING                    DATE  5/27/30

CUST. NC.          CLST. NAME          STREET ADDRESS          CITY / STATE          ZIP
999995             JCHN JCNES CC.      1C01 ANY STREET         ANYTCHN, LSA          12345
889688             SMITH ANC CC.       345 SCME STREET         SCMF TCWN, GA.        E8772
```

Notice that the first two lines on the spooled file display identify the file—this information will not appear on the printer report. Notice also that one line of printing on the report is broken into two lines on the display. This is due to the fact that a display station cannot show 132 positions for data on one line, therefore the data is folded, or split, into multiple lines. However, all the data in the report can be veiwed by looking at multiple lines. Using the 'roll' keys will allow you to scroll through the file to view all the data. Pressing the enter key will return to the command entry display.

If for any reason the report generated by that file is not required immediately when a writer is started to that queue, the hold spooled file (HLDSPLF) **D** command will place that file in a hold mode. If the following command were entered:

HDLSPLF FILE(QPRINT)   JOB(WSO1.OTUSER1.001578)   SPLNBR(0001)

(or entering a '4' on the DSPOUTQ display) and then the display output queue (DSPOUTQ QPRINT) **D** command were entered, the resulting display would be:

```
 11/06/79   8:54:51  OUTPUT QUEUE - QPRINT      LIB - QGPL
    FILE NAME   NBR  JOB NAME    USER        NBR   PTY RCD/PAG  STS
 _  QSYSPRT     0001 QCONSOLE    QSECOFR     001629 5       1P  RDY
 _  QPSRVDMP    0014 WSO1        QSECOFR     001552 5           OPN
 _  QPSRVDMP    0008 WSIO3       QSECOFR     001549 5           OPN
 _  QPSRVDMP    0004 WSI11       QSECOFR     001551 5           OPN
 _  QPSRVDMP    0008 WSI10       QSECOFR     001540 5           OPN
 _  QPSRVDMP    0011 WSI05       QSECOFR     001534 5           OPN
 _  QPRINT      0001 WSO1        OTUSER1     001578 5       1P  HLD




    1-DSPSPLF    2-DSPSPLFA    4-HLDSPLF    6-RLSSPLF    9-CNLSPLF
    CF5-REDISPLAY
```

The file would remain in a held state, in that queue, until a release spooled file command (RLSSPLF) **(D)** was entered. The command for this file would be

```
RLSSPLF FILE(QPRINT)  JOB(WSO1.OTUSER1.001578)  SPLNBR(0001)
```

(or by entering a '6' on the DSPOUTQ display). If there was no need to produce the report showing the information from the file, the cancel spooled file command (CNLSPLF) **(D)** could be entered. The command is:

```
CNLSPLF FILE(QPRINT)  JOB(WSO1.OTUSER1.001578) SPLNBR(0001)
```

(or by entering a '9' on the DSPOUTQ display). After the command was executed, the file would be removed from the queue, and no longer available for viewing or printing.

Each file on the queue has a group of attributes associated with it. These attributes can be displayed by entering the display spooled file command (DSPSPLF). **(D)** Entering the following command—

```
DSPSPLFA FILE(QPRINT)  JOB(WSO1.OTUSER1.001578) SPLNBR(0001)
```

will cause the following display to appear:

```
01/09/81  10:13:21  SPOOLED FILE - QPDSPLIB    NBR - 0001  +++
JOB: WSO1        USER: OTUSER1       NBR: 001578  OUTPUT PTY: 5
OUTPUT QUEUE: QPRINT         LIBRARY: QGPL        STATUS: READY
  DEVICE TYPE:        PRINTER    NUMBER OF COPIES:         1
  OUTPUT SCHEDULE:    *FILEEND   FILE SEPARATORS:          1
  HOLD FILE:         *NO        FORM TYPE:         *STD
  SAVE FILE:         *NO        FORM LENGTH/WIDTH:  66 132
  NUMBER OF PAGES:        1     LINES PER INCH:           6
  RECORD LENGTH:       132     OVERFLOW LINE NUMBER:    60
  FOLD RECORDS:      *NO        ALIGN FORMS:        *NO
CF3-CHGSPLFA
```

This display shows some of the information that is known about each spooled file. Using the display for reference, can you answer the following questions about a spooled file?

1. Who is the user whose job generated this file?

2. How many copies will be produced?

3. What device will this output be produced on?

4. Which line, when printed, will cause a skip to a new page?

If your answers were (1) OTUSER1, (2) one copy, (3) printer and (4) line #60—you are correct. If your answers differed, check the reading assignment and see if you can determine the problem. If you still have questions, ask your advisor for assistance.

The plus signs (+++) in the upper right-hand corner of the display signify that there is more data available to be viewed about that spool file. Pressing the enter/rec adv key will cause the following display to appear.

```
01/09/81  10:14:35  SPOOLED FILE - QPRINT       NBR - 0001
JOB: WS01        USER: OTUSER1    NBR: XXXXXX  OUTPUT PTY: 5
OUTPUT QUEUE: QPRINT      LIBRARY: QGPL        STATUS: READY
  PRINT IMAGE NAME:              *DEVD
   LIBRARY NAME:
  TRANSLATE TABLE NAME:          *PRTIMG
   LIBRARY NAME:
  UNPRINTABLE CHARACTER ACTION
   REPLACE CHARACTER:            *NO
   REPLACEMENT CHARACTER:        ' '
CF3-CHGSPLFA
```

Try your hand at answering the following questions, using the display for reference:

1. What is the job name and job number associated with this file?

2. What is the output priority of this file?

3. What is the name of the print image that will be used when this file is printed?

4. What is the status of this file?

If your answers were (1) WS01 and 001578, (2) 5, (3) *DEVD (tells the system to look in the device description for the actual print image), and (4) ready, you were correct. If your answers differed, use the same procedure as outlined before.

Some of the attributes that govern the way the output will be produced can be changed while the file is on the output queue. This request to change must be entered before the output begins to be produced on the device. The command that will change the attributes is the change spool files attribute command (CHGSPLFA). **D**

Entering the following command:

```
CHGSPLFA FILE(QPRINT) JOB(WSO1.OTUSER1.001578) SPLNBR(0001) OUTQ(OUT)
COPIES(2) FORMTYPE(CHECK) FILESEP(3) SCHEDULE(*IMMED) SAVE(*NO)
```

will cause the file to be moved to the queue named OUT, two copies to be produced on the special forms known as check, there will be 3 separators at the beginning of the printing, printing will begin immediately, or as soon as there is a record placed in the output file, and when all the printing has been produced, the file will be removed automatically from the queue.

It is not necessary to enter all of the keywords and parameters as shown here—enter only the ones that are required to change the attributes so that the output is produced in the form that you wish.

Another command that will change some of the attributes of the job, and/or the spooled file, is the change job command (CHGJOB). This command will change the output priority and the output queue that the spooled file is on (the change spooled file command can also be used to change the output queue). As well, other attributes may be changed—the log level, the date, and the switch settings. The change job command was discussed in the chapter on controlling the queues, and at that time would have been the vehicle used to change either the execution (processing) priority or the date the job would use. When the job is on the output queue, all processing has been completed, so the only variables left are the output priority and the output queue name.

Another command, the change output queue command (CHGOUTQ) **D** can change some of the attributes of the output queue itself. The only attribute you are likely to be changing with this command is the number of job separators that will be generated on the printer between jobs. The other attributes of the queue should only be changed by the data processing manager or system programmer. In this chapter we have learned that there are two entities to be dealt with as far as output spooling goes—a spooled file and an output queue. The spooled files are grouped together in an area called an output queue, and while on this queue, the attributes of the files can be displayed and changed to modify the way the report is produced. The contents of the spooled file can be displayed, and browsed through by using the roll up and down keys.

Ready to try a few practice test questions? Use the reading assignment and the previous pages of this chapter for reference.

1. What command would be entered to display the names of the files in an output queue?

2. What other types of information would be displayed besides the names of the files?

3. What command would allow you to view the contents of one of the spooled files?

4. How would viewing the contents be different from the printer output?

5. How can you prevent a spooled file from being generated on the output device?

6. How can you remove the spooled file so that it no longer appears on the queue?

7. How can you display the attributes of any spooled file that is on the output queue?

8. How can you cause a spooled file to be produced on the printer before any other files from that queue?

9. How would you move a spooled file from one queue to another?

10. How can you change the number of job separators that will be printed out?

When you have finished these test questions, compare your answers with the ones that follow.

Answers to the practice test questions:

1. The display output queue (DSPOUTQ) command

2. Other information is: job name, user name, job number, spooled file number, output priority, number of records in the file, and status of the file

3. The display spooled file (DSPSPLF)

4. Any information that would be printed past print position 80 would appear on the second line of the display because of the difference in the line lengths

5. By either holding the file (HLDSPLF) or by cancelling it (CNLSPLF)

6. Cancel spooled file (CNLSPLF)

7. Display spooled file attributes (DSPSPLFA)

8. By changing the output priority using the change job command (CHGJOB)

9. Using the change job (CHGJOB) command or the change spooled file attributes command (CHGSPLFA)

10. By using the change job (CHGJOB) or the change output queue (CHGOUTQ) or the change spooled file attributes (CHGSPLFA) command

If your answers disagree, check the reading assignment and the reference material to identify the discrepancies. If you still have a question, ask your advisor for help.

When you feel comfortable with the test questions and answers, turn the page for the test item for this chapter.

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CHAPTER 11—TEST ITEM

Write (on a sheet of paper) the commands needed to:

1. Display the files that are in the output queue name TESTQ

2. Prevent the spooled file named TEST11 in the output queue TESTQ (file number 2, in the job named GO, job number 001674, user is OTUSER1) from being produced on the printer at this time—however, save the file so that the output may be produced at a later time

3. Cause the file referenced in Question 2 to be available to be produced

4. Cause the file referenced in Question 2 to be removed from the output queue

5. Cause the spooled file referenced in Question 2 to be moved from the output queue name TESTQ to the output queue named QPRINT, and cause three copies to be produced

6. Display the contents of the spooled file referenced in Question 2

7. Cause one separator page to be produced between jobs on the output queue, QPRINT

8. Cause the output priority of the file referenced in Question 2 to change to 2

When you have finished the test question, turn to the next page and compare your answers with the ones found there. If there are any differences, and you cannot resolve them, ask your advisor for assistance.

CHAPTER 11—ANSWERS TO THE TEST QUESTIONS

1. DSPOUTQ TESTQ
2. HLDSPLF FILE(TEST11) JOB(GO.OTUSER1.001674) SPLNBR(2)
3. RLSSPLF FILE(TEST11) JOB(GO.OTUSER1.001674) SPLNBR(2)
4. CLNSPLF FILE(TEST11) JOB(GO.OTUSER1.001674) SPLNBR(2)
5. CHGSPLFA FILE(TEST11) JOB(GO.OTUSER1.001674) SPLNBR(2) COPIES(3) OUTQ(QPRINT)
6. DSPSPLF FILE(TEST11) JOB(GO.OTUSER1.001674) SPLNBR(2)
7. CHGOUTQ QPRINT JOBSEP(1)
8. CHGJOB JOB(GO.OTUSER1.001674) OUTPTY(2)

Reading Material

System/38 Operator's Guide

OBJECTIVE

Be able to list on a sheet of paper:

(1) The steps required, (2) the commands used, and (3) the start-up considerations of each of the following power down circumstances

    a. Emergency situations

    b. Via the operator/service panel

    c. Loss of power

    d. End of the day

▶ Read Chapter 8 of the System/38 Operator's Guide, the section on "powering down the system" up to "terminating operations without powering down." This reading assignment discusses methods of powering down the System/38 in the circumstances that you are likely to run into. The rest of this chapter will cover each method in greater detail.

The first situation is the emergency power down. When an emergency situation occurs (such as fire or some person working under the covers coming in contact with high voltage) the main concern at that time is to turn the power off to the system as quickly as possible. The quickest way is to push the emergency power off switch to the off (down) position. Power will be immediately cut off to the entire system, and all processing will terminate in an uncontrolled fashion. The results will be the same as if you had cancelled a subsystem with a terminate immediately option—the jobs processing will not cancel in an orderly fashion.

Also, the hardware devices will not terminate in an orderly fashion, so their state at the next startup will be unknown. Because of this unknown state of the hardware, it is necessary to have a service representative available when you try to power on the system the next time. The service representative will reset the hardware, and be there in case any of the devices have a problem coming up. Once the hardware has come up, your manager or programmer should be available at the start CPF time. Because every job processing was terminated immediately, the CPF may not be able to start at all, or if CPF can start, some of the data files may have to be reconstructed. After this type of power down, you should monitor the system carefully, and report any discrepancies from the normal daily operations to your manager or programmer immediately, and not try to recover from any error message that the system displays. Wait for the manager or programmer to make the decision as to what to do next.

The second situation is when there is no emergency, but you cannot enter the power down command from the console, and you must use the rotary switches to turn the power off. Power will be cut off immediately when the 'load' button is pressed, and as in the previous situation, the jobs processing will be immediately terminated. The main difference in this situation is that the hardware will power down in a controlled fashion and will not require a service representative to reset it. The power on procedure is the same as in the previous situation— that is, have your manager or programmer available for the start CPF sequence and monitor the system activities carefully.

The third situation is when the main power supply to the system is cut off while the system is operational. The dropping of main power to the system during operations causes the same circumstances as when the rotary switches are used to power down the system. The startup procedure is also the same—have your manager or programmer available for the start CPF sequence, and monitor the system activities carefully.

The last situation covers a normal end-of-day power down or shut down. In this situation, you want a controlled, orderly termination of all jobs that are processing, and a controlled, orderly termination of CPF. Entering the power down system command (PWRDWNSYS), with *CNTRLD and *NOLIMIT options assumed, will terminate the jobs and CPF in an orderly fashion. When the command is entered, no new jobs will be allowed to start and the jobs already processing will be allowed to finish before they are terminated. However, if one of the jobs that is active is a work station job, that job will not be terminated until the work station operator signs off. If the work station operators are not aware that the system operator wants to power down the system, they may continue their use of the work station for a long period of time. The system operator should send a break message to all work stations to the effect that 'the system will be going down, and to please finish your session and sign off' before entering the PWRDWNSYS command. During the power down sequence, the system will send status messages to the system operator message queue periodically. Some of these messages require a response, therefore, the operator should remain at the console during the power down.

Another variation of the normal end-of-day power down is to display
the active subsystems (DSPSBS command) **(A)** – **(C)** – **(E)** to determine
which jobs are active. If the QBATCH subsystem is active, displaying
the job queue (DSPJOBQ QBATCH) **(D)** will determine if there are
more jobs waiting to be processed. Holding the job queue
(HLDJOBQ QBATCH) **(B)** will prevent any new jobs from starting to
process. Then, when the currently processing job is completed, you
can terminate the QBATCH subsystem with the terminate subsystem
(TRMSBS) **(C)** command. To determine the status of the QSPOOL
subsystem, display the output queues with the display output queue
(DSPOUTQ) **(D)** command to determine if there is a writer active. If a
writer were active, entering the cancel writer (CNLWTR) **(E)** command
would deactivate it, or the hold output queue (HLDOUTQ) **(D)** com-
mand would suspend processing. Then the terminate subsystem
(TRMSBS) **(A)** **(E)** command could be entered to stop the QSPL
subsystem. For the interactive subsystem, QINTER, the display sub-
system command (DSPSBS) will show the names of the jobs (work
stations) currently active. The system operator could then send each
an appropriate message concerning the time of shutdown, and wait for
a response.

Based on the response received, the system operator could then cancel
the jobs one by one, using the cancel job (CNLJOB) command, or
terminate the subsystem with the terminate subsystem (TRMSBS)
command. Since the objective of the normal power down is to come
down in an orderly and controlled fashion, the system operator should
take every precaution to avoid cancelling a job or subsystem in any way
that would not allow for a normal start of CPF at the next startup time.

Any queues, either job or output, that have been held will still be in
the hold state when the next start of CPF has been completed. You can
determine the state of the job queues by entering the display job queue
DSPJOBQ **(B)** command, and of the output queues by entering the
display output queue DSPOUTQ **(D)** command. These queues can be
released for use by entering the release queue command, RLSJOBQ **(B)**
or RLSOUTQ. **(D)**

Review this chapter and/or the reading assignment as much as you wish.
When you feel comfortable with the information, turn to the test item
for this chapter.

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CHAPTER 12—TEST ITEM

For each of the following circumstances, list (1) the steps required, (2) the commands used to power down the System/38, and (3) the effects of each method you specify will cause to be important on the next startup. You may use the reading assignment for reference.

a. Emergency situations

b. Via the operator/service panel

c. Loss of power

d. Normal end-of-day

If you come up with more than one method for a situation, write them all down.

CHAPTER 12—ANSWER TO THE TEST ITEM

a. Emergency — move the emergency power off switch to the off position. You must have a service representative to reset the hardware to start CPF, and must have the services of your DP manager or systems programmer.

b. Via operator/service panel — set rotary switch #1 to '3' and rotary switch #2 to '4', and press the load switch. Must have the services of your DP manager or programmer when restarting CPF.

c. Loss of power — have DP manager or programmer available when restarting CPF.

d. Normal end-of-day — (1) You should send a break message to work station operators asking them to sign off, then enter the power down system command from the console (PWRDWNSYS). Taking the default of *CNTRLD and *NOLIMIT will prevent any new jobs from starting, and provide a controlled termination of the jobs already in progress. Entering a *IMMED option will cause all jobs to be cancelled, and will require the services of the DP manager or programmer at startup. Entering a *NOLIMIT option will not set any time limit on the ending of already processing jobs; this could be a long time. (2) You can use the display commands to find the status of subsystems and jobs, and terminate the inactive subsystems. Then you can notify users that their jobs will be cancelled, and hold the job and output queues.

Reading Material

System/38 Operator's Guide

OBJECTIVES

Be able to list the commands needed to:

1. Initialize a diskette

2. Copy an object from auxiliary storage to diskette

3. Copy an object from diskette to auxiliary storage

4. Delete all the file labels from a diskette

Diskette and/or tape is the medium by which data can be stored offline—that is, copied from auxiliary storage to media that can be removed from the computer room area. The copying may be done for backup purposes (to have a point of return in case of machine failure or operational procedure error), or to free a portion of auxiliary storage so that some other job may use that storage. For example, the payroll information may only be used once a week, so the information is stored on diskette and restored to the auxiliary storage when it is needed to process the weekly payroll application.

▶ Read Chapter 13 of the System/38 Operator's Guide. This reading assignment will explain the save/restore reasoning, how to prepare the save/restore medium, the identifying data needed, and how to display the identifying data.

Earlier in this chapter an example of the use of save/restore was mentioned in regard to the weekly payroll application. Let's see how the information covered in the reading assignment could be used with this application.

Assume that this is a new application, and that this is the first week that the save function is to be performed. The diskette that will be used to save the payroll information must be initialized (prepared).

The diskette you have been given does not contain any information that may need to be referenced in the future. It is placed in slot #1 of the diskette drive, and the following command is entered:

```
INZDKT LOC(*S1) NEWVOL(PAYRL) FMT(*SAVRST) CHECK(*NO)
```

When the initialization is complete, the command to copy the payroll information to the diskette is entered:

```
SAVLIB LIB(PAYROL) LOC(*S1) VOL(PAYRL) STG(*FREE)
```

This command would copy all objects (employee information and the programs to process that information) from the library named PAYROLL to the diskette, and release the auxiliary storage for some other application to use. When the time comes to process the next weekly payroll, the information from the diskette must be copied back to auxiliary storage (restored). The following command would copy the objects from the diskette in slot #1 to auxiliary storage:

```
RSTLIB SAVLIB(PAYROL) LOC(*S1) VOL(PAYRL)
```

After the payroll had been processed, but before the current (updated) objects were again copied to the diskette, the old information would be erased from the diskette by the following command:

```
CLRDKT LOC(*S1) VOL(PAYRL)
```

(It is not necessary to reinitialize the diskette unless there is some suspected problem, or unless the system displayed an error message when accessing the diskette.)

The updated information would then be copied to the cleared diskette by the following command:

```
SAVLIB LIB(PAYROL) LOC(*S1) VOL(PAYRL) STG(*FREE)
```

To display the volume and file label information from the diskette (to check that the latest version of the payroll information is on the diskette) use the following command:

```
DSPDKT LOC(*S1) DATA(*SAVRST)
```

To print this information for history and documentation purposes, add the OUTPUT(*LIST) option.

If you feel that you need more practice, try the practice test questions which follow, otherwise turn to the test item for this chapter.

Practice test questions:

1. The _____ command will prepare a diskette(s) for use.

2. Objects can be copied from a library to a diskette(s) using the _____ command.

3. The _____ command will erase all data from the diskette, but will not erase the volume identifier.

4. To copy information from a diskette to a library, the _____ command is used.

When you have completed the test questions, compare your answers with the ones that follow:

1. INZDKT — initialize diskette

2. SAVLIB — save library

3. CLRDKT — clear diskette

4. RSTLIB — restore library

If your answers agreed, proceed to the test item for this chapter. Otherwise, consult the reading assignment and try to resolve the differences. Then go on to the Test Item for this chapter.

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For each of the steps listed below, list on a sheet of paper the commands and options that would be entered:

1. A magazine containing 8 diskettes is to be prepared for use as a save media for the inventory application. The magazine should be referencable as INVTR, and will be in magazine position #2.

2. The library containing objects pertaining to the inventory application (INVENT) is to be saved on the diskette magazine in position #2. The auxiliary storage used by this application should be released for use by another job.

3. There is now a need to have the inventory objects back on the auxiliary storage.

4. All the file labels are to be removed from the diskettes in the magazine that has been used to save the inventory application.

When you have completed the test item, compare your answers with the ones on the next page.

CHAPTER 13—ANSWERS TO THE TEST ITEM

1. INZDKT LOC(*M2) NEWVOL(INVTR) FMT(*SAVRST)

2. SAVLIB LIB(INVENT) LOC(*M2) VOL(INVTR) STG(*FREE)

3. RSTLIB SAVLIB(INVENT) LOC(*M2) VOL(INVTR)

4. CLRDKT LOC(*M2)

If you included any of the optional parameters in your solutions, that is acceptable.

If you have any questions, consult your advisor for assistance.

Chapter 14—System and History Logs

Reading Material

System/38 Operator's Guide

OBJECTIVE

Be able to list the commands used to list and/or display the system history and job logs.

Each step performed during the processing of a job in the system is recorded in the job log. Major system events, not the details of individual jobs, are recorded in the system history log. The information in both of these logs is available to be displayed and/or printed, and can be used to reconstruct events in case a problem occurs.

▶ Read Chapter 8 of the System/38 Operator's Guide, the section on "System Logs," up to the section on "Powering Down the System." This reading will explain the types of information that are recorded in the system history log, and how to display or list that information.

▶ Now read Chapter 12 of the System/38 Operator's Guide, the section on "Job Logs." This reading will explain more about the types of information kept on an individual job basis.

As mentioned previously, the information found in these logs can be used as a recovery aid. For this reason, the system history log should be listed on a daily basis, and the job logs at the termination of each session (time from sign-on to sign-off). These listings should be filed in a binder, and kept available for reference at any time.

The system history log can be displayed by using the display log command (DSPLOG), and printed by adding the OUTPUT(*LIST) parameter. The command is:

```
DSPLOG OUTPUT(*LIST)
```

The contents of the job log can be printed by the use of the LOG(*LIST) optional parameter entered at the time of signing-off the work station. The command is:

```
SIGNOFF LOG(*LIST)
```

Turn the page for the test item for this chapter.

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CHAPTER 14—TEST ITEM

On a sheet of paper, list the commands needed to:

1. Display the contents of the system history log for the current date.

2. Print the contents of the system history log for the current date.

3. Print the contents of the job log.

When you have completed the test item, turn to the next page and compare your answers with the ones found there.

CHAPTER 14—ANSWERS TO THE TEST ITEM

The commands are:

1. DSPLOG

2. DSPLOG OUTPUT(*LIST)

3. SIGNOFF LOG(*LIST)

If your answers agreed with the above solutions, you have successfully completed this test item, and can proceed to the next chapter.

If your answers differed, consult the reading assignments and resolve the differences. Then go on to the next chapter.

Chapter 15—Problem Determination

Reading Material

System/38 Problem Determination Guide

OBJECTIVES

Using the reading assignment for reference, be able to list the suggested procedures for:

1. Diskette jam

2. Run indicator on for several minutes

3. Condition indicators register a 0832 message

4. Given 3 settings of condition indicators, use the conversion table to determine the hexadecimal codes

As mentioned in previous chapters, all expected halts and recovery procedures should have been documented in the runbook that is kept at the system console. When a halt or error condition occurs that is not documented in this book, there are some procedures that can help determine the problem.

▶ Read Chapters 1 and 2 in the Problem Determination Guide. Your DP manager or programmer will have to assist in executing many of these procedures, as they require some detailed information that you are not responsible for.

As you can see from the reading assignment, following the general problem determination procedure will lead you to the specific chapter to help pinpoint the problem, and to tell what function procedures to follow and what information to gather for the service representative or your programmer. If you can start CPF and communicate with the system, displaying the system operator message queue and/or printing out the logs may present some information that will help diagnose the problem. If you cannot enter commands from either the console or a work station, the condition indicators on the operator/service panel will be on. The sequence in which these indicators are on/off can be translated to a hexadecimal code that will indicate what the

▶ problem is. Read the section in Chapter 4 on "Interpreting the System Indicators," which will explain how to read the settings of the indicators and translate the information into hexadecimal code.

When you have finished the reading assignment, try your hand at converting the following condition indicator settings to a hexadecimal code. Use the reading assignment for reference.

()()()() ●()()()
()()()● ().()●

Do you agree that the hexadecimal code for the above indicator settings is 0811? If not, consult the reading assignment again!

Another one for practice —)() ●()()●
●.()● ()●●)

These indicator settings represent 0996.

Figure 4-2 in Chapter 4 of the Problem Determination Guide shows a summary of the status and condition indicators, what the different settings of ON/OFF mean, and the action to follow. For example, you will notice that if the first two condition indicators are 09 — you are directed to a separate table (Figure 4-3). This table, in turn, based upon the complete condition indicator value, describes a more specific cause of the problem and yields an action code to use in Figure 4-4. Associated with this code is the recovery action you are to follow.

Look up condition indicator code 0811 and you will see that the system stopped because it was not able to start 62PC disk drives 2 through 6 during the IMPL process. The action code for this halt is 1A. Look up action code 1A, and you will see that you are to take a main storage dump, do an IMPL, and if the problem persists, call a service representative.

Look up code 0996 and write the cause, action code and the description of the action code on a sheet of paper.

Compare your findings with these: hexadecimal code 0996 was caused by a function check exception in the initial CPF process. The action code 2D directs you to take a standalone main storage and virtual storage dump and do an IMPL. If the same code is shown at the IMPL, reinstall CPF.

If the second IMPL is not successful, leave the system in its current state and call your service representative. Gather as much of the information referenced in the "before calling for service" section as possible.

The remaining part of this reading assignment deals with other indicators on the service/operator panel, and procedures to follow if there is a problem with any work stations that are not in your physical location. Take a few minutes and browse through the material for your own information.

When a problem occurs, your first point of reference will be your run-book. If the condition is not documented there, consult the Problem Determination Guide. If the condition indicators show a code beginning with 08, 09, 19, 3E, or 3F, look up the hexadecimal code in the appropriate table, and jot down the code, the description of the trouble, the action code, and the description of the action code. If the condition indicators do not show one of the above halts, follow the problem determination procedures only as far as you feel comfortable. Do not hesitate to call on your DP manager or programmer for assistance. Pass on to them the information pertaining to the condition indicators, or the point you are in the general problem determination procedure, and let them make the decision to the next step. At this point, the person in charge may know the cause of the problem (they may have made a modification to the system at a time when you were not present) and can fix it. If they do not know the fix, then they can take the dumps and gather the information before calling the service representative.

If it is necessary for a service representative to come, they may ask you if it is alright to work on a specific device. For example, the representative may have to do some work on the printer. Your first step would be to determine if any system function was using the printer.

Entering the DSPOUTQ command would tell if there was a writer active to the printer. If there was a writer active, you could either enter the HLDWTR (hold writer) or the CNLWTR (cancel writer) command, which would deactivate the system function. Be sure that you choose the *ENDFILE option so that the current job completes its output before the writer quits. Once you are sure the device is free, the next step is to tell the system that the printer is not to be considered a part of the system. Entering the vary device command (VRYDEV QSYSPRT *OFF) will remove the device function from the system (the device names that pertain to your system configuration should be supplied by your programmer). If the service representative asks you to turn the power off to the printer, enter the power off command (PWRDEV QSYSPRT *OFF). When the service representative is finished working on the printer, turn the power back on by entering PWRDEV QSYSPRT *ON, then return the device function to the system by entering VRYDEV QSYSPRT *ON. (Only the printers and the card readers can be powered off). If the device is a work station, displaying the active subsystems (DSPSBS) will determine if the work station is currently active.

Again, a word of caution—*do not* cancel any job or subsystem without first notifying all active users, and allowing them to terminate their sessions in a controlled manner. Use the send message (SNDMSG) or the send break message (SNDBRKMSG) command to notify the users to sign off.

If the service representative has to do some work on a work station:

When the user of the work station has signed off, you can enter the vary device command (VRYDEV WS01 *OFF), and the representative can proceed with the work. To reactivate the work station, enter the VRYDEV WS01 *ON command, and the work station users can resume their work.

If you have any question pertaining to when or how to make a device available to the service representative, ask your DP manager or programmer for assistance.

Turn to the test item for this chapter.

CHAPTER 15–TEST ITEM

Using the reading assignment for reference, list on a sheet of paper:

1. The procedure to follow when:

   a. The diskette device jams

   b. The run indicator is on for several minutes

   c. The condition indicators register a 0832 halt

2. The hexadecimal code represented by the following condition indicator settings

   a. ⊙◦)◦)● ◦)◦)●◦

   ◦/●◦·● ◦)◦)●◦)

   b. ◦)◦/◦ ●◦)◦)●

   ◦/◦)●◦) ◦)●◦)●

   c. ◦)●◦)◦) ◦)●◦◦)

   ◦)◦)●◦) ◦)●◦)●

When you have completed the test item, compare your answers to the ones on the following page.

CHAPTER 15—ANSWERS TO THE TEST ITEM

1. a. If the diskette jams, vary the device offline with the VRYDEV command, and call your service representative.

    b. Refer to the "Possible System Loop" and "Possible System Wait" sections in Chapter 4 of the Problem Determination Guide and ask your DP manager or programmer for assistance.

    c. Jot down the description for the 0832 halt and the action code and description, pass the information on to your DP manager or programmer, and wait for their decision to the next step.

(Another acceptable answer to any of the above questions is: "Call my DP manager or programmer for help immediately.")

2. a. 1252

    b. 0925

    c. 4425

On the facing page is the overview of the batch job flow and a listing of some of the commands that have been discussed in this course. You can use this illustration for reference while you are taking Sections 2 and 3 of this course and when you begin acting as system operator.

SYSTEM/38 BATCH JOB FLOW OVERVIEW
(Shipped System)

(QDKT)

A
Diskette Reader
QSPL

B
Job Queue (QBATCH)

C
Batch Processor
QBATCH

D
Output Queue (QPRINT)

E
Printer Writer (QSYSPRT)
QSPL

Printer (QSYSPRT)

STRDKTRDR	STRSBS	DSPJOBQ	DSPOUTQ	STRPRTWTR
CNLRDR	DSPSBS	DSPJOB	HLDOUTQ	HLDWTR
HLDRDR	TRMSBS	HLDJOB	RLSOUTQ	RLSWTR
RLSRDR	CHGJOB	RLSJOB	CLROUTQ	CNLWTR
STRSBS		CNLJOB	DSPSPLF	STRSBS
DSPSBS	$\left\{\begin{array}{l}\text{outq}\\\text{outpty}\end{array}\right\}$	HLDJOBQ	CNLSPLF	DSPSBS
TRMSBS		RLSJOBQ	HLDSPLF	TRMSBS
		CLRJOBQ	RLSSPLF	
		CHGJOB	DSPSPLFA	
			CHGSPLFA	

Batch Processor options:
$$\left\{\begin{array}{l}\text{jobpty}\\\text{log}\\\text{outq}\\\text{date}\\\text{sws}\\\text{outpty}\end{array}\right\}$$

Output Queue options:
$$\left\{\begin{array}{l}\text{outq}\\\text{copies}\\\text{formtype}\\\text{filesep}\\\text{schedule}\\\text{save}\end{array}\right\}$$

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Section 2—Day-to-Day Situations

Reading Assignment

None

OBJECTIVE

Apply the information discussed in Section 1 of this course in given day-to-day situations.

This section of the course will outline several typical day-to-day situations that you, as system operator, are likely to encounter. Your activity will be to write the procedures that you would follow, and the command or commands that each situation calls for. It is not required that you write the procedures in great detail, only enough so that you have identified the major steps (in the correct sequence) and any peculiarities that pertain to that situation.

The format of this section is: a situation will be given, you will write the procedures and commands, then the proposed solution will be given. You will compare your solution to the proposed solution, and determine if your solution is acceptable. If there are discrepancies, try to resolve them by consulting the reference material. If you cannot resolve them, ask your advisor for assistance. For reference you may use:

- Student Workbook — Section 1

- System/38 Operator's Guide

- System/38 Problem Determination Guide

- Any notes you may have taken

- Any other available reference documents

As a quick source of reference, the commands that have been discussed in Section 1 of this course (and a short description of each command) can be found on the following page. These may be removed, but be sure to put them back so you can find them again when you are finished.

When you have gathered pencil, paper and all your reference documents, and are ready to proceed, turn to "Situation #1" and continue.

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System

DSPSYS — display system
DSPSYSSTS — display system status
PWRDWNSYS — power down system

Subsystem

CHGSBSD — change subsystem description
DSPSBS — display subsystem
STRSBS — start subsystem
TRMSBS — terminate subsystem

Message and log

SNDMSG — send message
SNDBRKMSG — send break message
DSPMSG — display message
CHGMSGQ — change message queue
DSPLOG — display log

Device

DSPDKT — display diskette
DUPDKT — duplicate diskette
INZDKT — initialize diskette
DSPTAP — display tape
INZTAP — initialize tape
PWRDEV — power device
VRYDEV — vary device

Job queue

CLRJOBQ — clear job queue
DSPJOBQ — display job queue
HLDJOBQ — hold job queue
RLSJOBQ — release job queue

Job control

CHGJOB — change job
CNLJOB — cancel job
DSPJOB — display job
HLDJOB — hold job
RLSJOB — release job
SBMJOB — submit job
SIGNOFF — sign off

Output queue

CHGOUTQ — change output queue
CLROUTQ — clear output queue
DSPOUTQ — display output queue
RLSOUTQ — release output queue

Spool file

CHGSPLFA — change spooled file attributes
CNLSPLF — cancel spooled file
DSPSPLF — display spooled file
DSPSPLFA — display spooled file attributes
HLDSPLF — hold spooled file
RLSSPLF — release spooled file

Spool reader

CNLRDR — cancel reader
HLDRDR — hold reader
RLSRDR — release reader
STRDKTRDR — start diskette reader

Spool writer

CNLWTR — cancel writer
HLDWTR — hold writer
RLSWTR — release writer
STRPRTWTR — start printer writer

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SITUATION #1 — NORMAL STARTUP

Good morning! Today is Friday, January 18, 1980. It is now 9:00 AM, and you are ready to power-on your System/38, and start the Control Program Facility program. The night operator left you a message that the end-of-shift shutdown was normal.

List the procedures and commands that you would use.

When you have listed the procedures and commands, turn to the next page and compare your list with ours.

SITUATION #1 — SOLUTION

Set rotary switch 1 to 4 or 5, set rotary switch 2 to 0, and press the power on button.

When the system operator message queue is displayed, press the enter key.

When the "start CPF" screen appears, enter the correct time and date in the appropriate entry areas, and press the enter key. When the system operator menu is displayed, the System/38 is ready to process the day's work.

Optionally — get any supplies (paper, cards, etc.) that will be required during your shift. Put paper in the printer if necessary.

Did you consider the fact that the system may not come up successfully? This fact was not mentioned in the description of the situation, therefore it is not a required part of the solution. However — what would you do if the system halted during the start-up procedure, with some condition indicator lights on? Jot down the steps, then compare them with the steps found in the next paragraph.

Translate the condition indicators to hexadecimal code, and look up the hexadecimal code in the problem determination section of the System/38 System Operator's Guide. Pass the information pertaining to the cause of the halt, and the suggested action, to the person in charge, and let them make the decision as to the next step.

When you are ready to proceed with Situation #2, turn to the next page.

SITUATION #2 — STARTING THE INTERACTIVE SUBSYSTEM

You want to start the interactive subsystem (QINTER) so that the work station operators can begin their daily work. Also, you want to find out whether there are any files waiting to be printed on the system printer, and to print the reports.

List the procedures and commands that you would use.

When you have listed the procedures and commands, turn to the next page and compare your list with the one found there.

SITUATION #2 — SOLUTION

Start the subsystem by entering STRSBS QINTER (start subsystem).

Determine if there are any files in any output queue by entering DSPOUTQ (display output queue). This display will tell you if any queue has files in it. You can determine the files in a specific queue by name by entering DSPOUTQ QPRINT, etc. (display the output queue named QPRINT).

Start producing the reports on the system printer by entering STRPRTWTR QSYSPRT QPRINT (start a printer writer to the device name QSYSPRT from the output queue name QPRINT). Use your name for the output queue.

What if when you entered the start printer writer command, there was no error message displayed, but no output started on the printer? When you have reached a conclusion, continue with the next paragraph.

In this situation, the spooling subsystem had not been started yet, and the request to start the printer writer was on the job queue for QSPL. Entering the start subsystem command (STRSBS QSPL) would have caused the printed output to begin.

Turn to the next page for Situation #3.

SITUATION #3 — STATUS, MESSAGES, DISKETTES

You want to determine what work stations have signed on to the interactive subsystem. If PAYROL is one of the users, send a message to start the payroll as soon as possible, and ask for a reply whether it is possible for them to do so. Also, your manager has brought a diskette to you, and requests that you run the job contained in the area named TRAIN.

List the procedures and commands that you would use.

When you have listed the procedures and commands, turn to the next page and compare your list with the one found there.

SITUATION #3 — SOLUTION

Display the subsystem QINTER by entering

DSPSBS QINTER (display subsystem QINTER).

Send a message to user PAYROL by entering

SNDMSG 'Can you start the payroll immediately?' WSI04 *INQ
(send a message to work station WSI04 and receive a reply)

---- or ----

SNDBRKMSG 'can you start the payroll immediately?' WSI04 *INQ
(send a break message to work station WSI04 and receive a reply)

Place the diskette in slot #1 of the diskette drive, and enter

STRDKTRDR QDKT TRAIN LOC(*S1) (start a diskette reader in
the device QDKT, the label on the diskette named TRAIN, in slot #1
of the diskette drive) — again, this is assuming that the QSPL sub-
system had been started. If QSPL had not been started yet,
STRSBS QSPL (start subsystem QSPL) must be entered.

Turn to the next page, and proceed with situation #4.

SITUATION #4 — PRINTED OUTPUT

Your manager has asked you to find out why the output from the job submitted from the diskette in Situation #3 has not been printed, and to take the necessary steps to produce the output.

List the procedures and commands that you would use.

When you have listed the procedures and commands, turn to the next page and compare your list with the one found there.

SITUATION #4 — SOLUTION

You know that the job was read from the diskette, so the task now is to find out just where the job is in the system. The steps to be taken are:

1. a. Display the job queues (DSPJOBQ) to determine which queues have jobs in them. This display will also tell you if any of the queues are in a hold mode. If the QBATCH job queue had jobs in it, and if the status of the queue is 'blank' (not held), display the job queue (DSPJOBQ QBATCH) and see if the job named TRAIN is there. If the job is there, display the subsystem QBATCH (DSPSBS QBATCH) to determine if the subsystem is active. If the message 'subsystem not active' is displayed, enter the start subsystem command (STRSBS QBATCH). If the display job queue shows that the QBATCH job queue is 'held,' enter the release job queue (RLSJOBQ QBATCH) command. If the output still does not start, display the subsystem QBATCH (DSPSBS QBATCH) to determine whether it is necessary to enter the start subsystem command.

   b. If the job was not on the job queue or active in the subsystem, display the output queues (DSPOUTQ) and determine if the job is on one of them (by displaying a specific output queue (DSPOUTQ QPRINT)). If the job is on the output queue, determine from the display output queue display (DSPOUTQ) if there is a writer started to that particular queue, and if not, start a writer with the STRPRTWTR command. If a writer had been started but was held, enter the release writer command (RLSWTR). If the output still does not appear, determine if the Spooling subsystem is active with the display subsystem command (DSPSBS), and if necessary, start the SPOOL subsystem. If the output still does not begin, enter the display job command as outlined next

   ---- or ----

2. Determine where in the system the job is by entering the display job command (DSPJOB TRAIN). This display will show whether the job is on the job queue, being processed by the subsystem, or on the output queue. You would then use the various display commands to determine the status of the queues, subsystems, etc.

   If the display job (DSPJOB TRAIN) shows that the job had been held, entering the release job command (RLSJOB TRAIN) will reactivate the job, but you still may have to use the other commands to determine the status of the queues, subsystems, etc.

   If, after the above steps have been executed, the output still has not produced, contact your manager for help.

   If your solution has discrepancies that you cannot resolve, ask your advisor to spend some time with you to review your solution. Otherwise, proceed to the next situation!

SITUATION #5 — DISKETTE JAM

You have inserted a diskette into slot #2 of the diskette reader, and entered a start diskette reader (STRDKTRDR) command. When the diskette was moved into the drive, it jammed and you cannot remove it.

List the procedures and commands that you would use.

When you have listed the procedures and commands, turn to the next page and compare your list with the one found there.

SITUATION #5 — SOLUTION

Refer to the "Device Does Not Work" in Chapter 6 of the Problem Determination Guide, and follow the procedure outlined there.

Turn to the next page for Situation #6.

SITUATION #6 — WORK STATION LINE CHECK

The operator on the work station named WSI09 calls and says the work station is not working — the line check light is on. He wants to know if there is a system problem, or if the trouble is with the work station. He also asks you what to do next.

List the procedures and commands that you would use.

When you have listed the procedures and commands, turn to the next page and compare your list with the one found there.

SITUATION #6 – SOLUTION

You could call some other work station operators on the telephone and
inquire whether their work stations were operable. Or you could
display the subsystems (DSPSBS) to determine if any work stations
were active in the interactive (QINTER) subsystem.

If any other work stations were not operable, refer to the problem
determination procedure in Chapter 6 of the Problem Determination
Guide, and follow the procedures outlined there.

If the other work stations were operable, refer to work station operator
to the problem determination procedure in the Display Station Opera-
tor's Guide.

Go to the next situation.

SITUATION #7 — REMOTE WORK STATION ERROR

You have a message on the console that indicates an error in the communications between the System/38 and a remote work station. You wish to discover the cause of the problem.

List the procedures and commands used to isolate the cause of the failure in the communications between the System/38 and the remote work station.

When you have listed the procedures and commands, turn to the next page and compare your list with the one found there.

SITUATION #7 — SOLUTION

Refer to the problem determination procedure in Chapter 7 of the Problem Determination Guide. Following the procedures outlined there you will be directed to additional problem determination procedures for communications, located in the same chapter.

Using the detailed procedures in Chapter 7 you should be able to isolate the cause of the problem.

Section 3—Machine Exercises

INTRODUCTION TO THE DESK EXERCISE

In this exercise you will be following through the steps to execute a batch job. The job needs to be read into the System/38 from diskette and upon completion yields a printed report.

Completion of this desk exercise will aid in your overall understanding of how to execute a batch job through the system, trace the job through various stages, and change certain characteristics about the job. Also, all of what you will learn in this exercise will be useful to you when running the machine exercise in the Operator's Lab.

You should feel free to use the answers below each question as (1) a guide in coding the commands and parameters (2) a review of your coded answers (3) an aid if you have difficulty in coding the commands on your own. Also, have available the System/38 Batch Job Flow Overview illustration (at the end of Section 1 in this workbook) to assist in tracing the job through the system.

DESK EXERCISE — BEGIN

You may have just powered on the System/38 and completed the steps necessary to IMPL the system. No subsystems other than the controlling subsystem have been started yet. Assume that your advisor has given you a diskette containing one job called OPR1. The data-file-identifier or LABEL containing this job is named MASTER. The status of the job (OPR1) will be 'held' when it is put on the job queue. This job will print a report. (It is not important what the report looks like.) Code the commands and parameters necessary to complete the following steps to produce the reports while tracing the job through the system. You may want to cover the answers here with a piece of paper while you decide what your answers should be.

Step 1

You have inserted the diskette in the diskette drive. What is the command that will cause the system to read the job? Where will the request to start the reader reside?

Answer

STRDKTRDR DEV(QDKT) LABEL(MASTER) LOC(*S1)

The request to start the reader will reside in the job queue for QSPL, because the spooling subsystem (QSPL) has not been started.

Step 2

You want to see if your job (OPR1) was submitted to the system, as well as which subsystems are active. Various display commands (DSP) will aid in determining the status.

What commands would you use to display information about the entire system?

Answer

DSPSYS

If you had executed the command, you would have received the following display. Notice that QCTL is the only subsystem displayed. The other subsystems — QSPL, QBATCH, QINTER and QPGMR — have not been started. QCTL is the controlling subsystem and is always active after IMPL.

```
10/07/81  16:15:32          SYSTEM DISPLAY
  SUBSYSTEM    SBS     ACT            TOTAL      SYS POOLS BY SBS
  NAME         NUMBER JOBS STATUS   STORAGE   1  2  3  4  5
  QCTL         002004    1 ACTIVE      0 K     2




  1-DSPSBS     2-DSPSBSD    9-TRMSBS           CF3-DSPSYSSTS
                                               CF5-REDISPLAY
```

Step 3

Now you want to see if your job is on the queue. What command would you use to display all job queues?

Answer

DSPJOBQ

Executing the DSPJOBQ command will give you the following display. Notice that there is one entry in QSPL but none in QBATCH.

```
01/09/81   9:06:01        JOB QUEUES
         QUEUE NAME   LIBRARY    JOBS    SUBSYSTEM    STATUS
  ──▶  _ QBATCH       QGPL         0  ◀──
       _ QINTER       QGPL         0
       _ QPGMR        QGPL         0
  ──▶  _ QSPL         QGPL         1  ◀──
       _ QCTL         QSYS         0   QCTL




         1-DSPJOBQ    4-HLDJOBQ    6-RLSJOBQ    CF5-REDISPLAY
```

Step 4

You wish to see the name of the job on the job queue. Which command displays the qualified job names, the status of all jobs in all subsystems, and the jobs on the job queues and output queues.

Answer

DSPSBS

Executing the command would give you the following display. You can get additional information about the job by entering a 1 before the job name.

```
01/09/81   9:08:07          SUBSYSTEM JOBS - *JOBQ  +++
  JOB NAME  USER           NBR    TYPE    STATUS
_ MASTER    QSYS           000589 RDR     JOBQ

1-DSPJOB    2-SPL FILES    4-HLDJOB    6-RLSJOB    9-CNLJOB
```

Step 5

You wish to display the overall status of all output queues. What command would you use?

Answer

DSPOUTQ

Executing the command would give you the following display. Notice that no writers are active and that there are no files waiting to be printed from QPRINT.

```
                                    ↓

      01/09/81    9:09:47        OUTPUT QUEUES
         QUEUE NAME    LIBRARY    FILES  WRITER      STATUS
       _ QDKT          QGPL         0
→      _ QPRINT        QGPL         0    ←
       _ QPRINTS       QGPL         0
       _ QPRINT2       QGPL         0
       _ QPUNCH        QGPL         0




         1-DSPOUTQ    4-HLDOUTQ   6-RLSOUTQ    CF5-REDISPLAY
```

Step 6

You want detailed status of the output queue QPRINT. What command and parameters would you use to obtain this display?

Answer

DSPOUTQ OUTQ(QPRINT)

Executing the command would give you the following display. Notice the output queue has no output files confirming the display in Step 5.

```
10/07/81 16:53:40  OUTQ - QPRINT       LIB - QGPL        WTR
  FILE NAME   NBR  JOB NAME    USER      NBR   PTY RCD/PAG STS

    (NO OUTPUT FILES)
```
```
CF5-REDISPLAY
```

Step 7

You want to display the status about your particular job OPR1. What command and parameter would you use?

Answer

DSPJOB JOB(OPR1)

If you executed the command, a message would return to you saying
"Job OPR1 Not Found." The job is still not recognized by the system.
It is still on the diskette reader job queue QSPL.

Reviewing what has happened so far, you have inserted a diskette with
a job on it and started the diskette reader. Referring to the Batch Job
Flow Overview below, your job OPR1 resides on the diskette, and the
request to start the diskette reader is on the QSPL JOBQ because the
spooling subsystem (QSPL) has not been started. Various displays
shown before assisted you in determining your job's overall status.

SYSTEM/38 BATCH JOB FLOW OVERVIEW

(Shipped System)
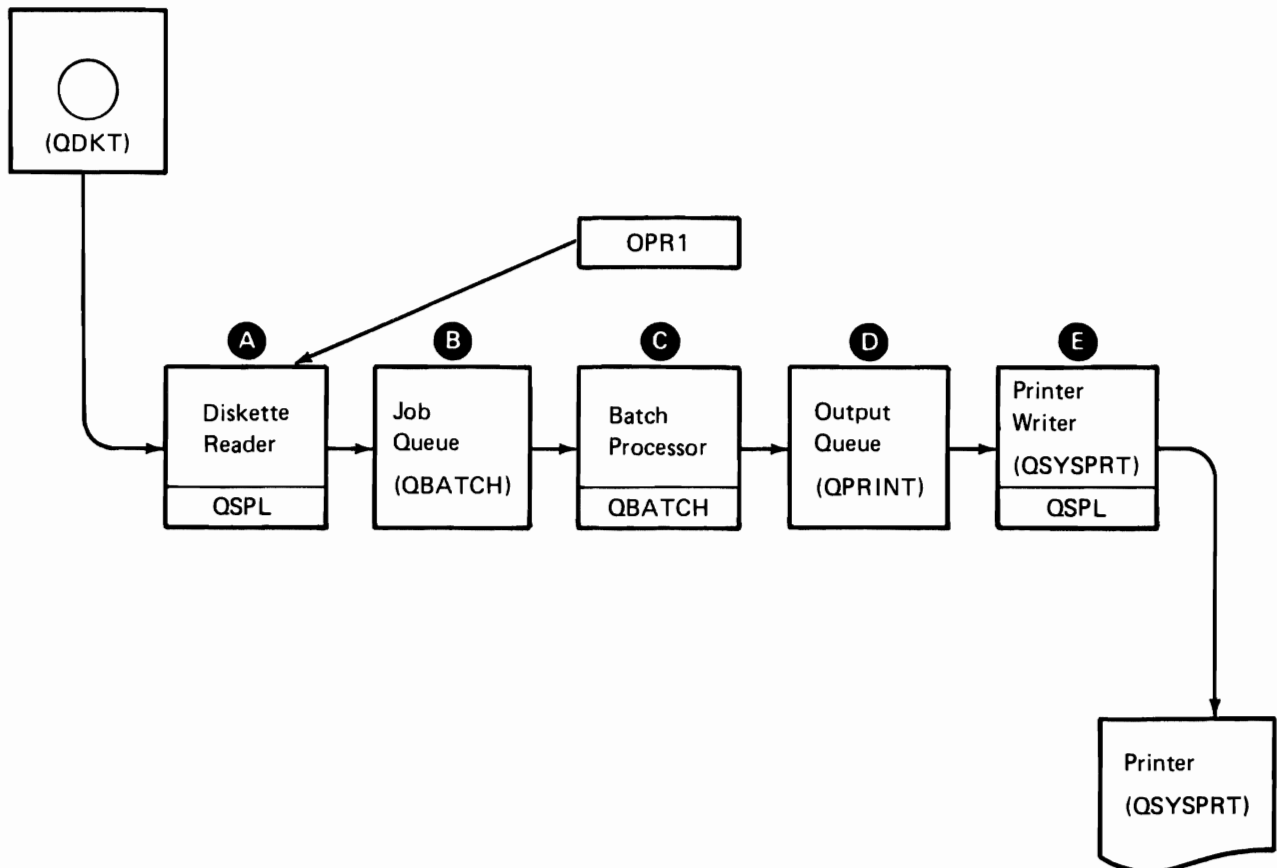
Step 8

You want to start the spooling subsystem. Which command and param-
eters would you use?

Answer

STRSBS SBSD(QSPL)

Referring to your System/38 Batch Job Flow Overview, where will your job reside (A,B,C,D or E) and why?

Answer

B, because starting the QSPL subsystem will recognize the start diskette reader request on the QSPL job queue and read your job from the diskette reader and place it in the QBATCH job queue. It will not process at this time because the batch subsystem (QBATCH) has not been started.
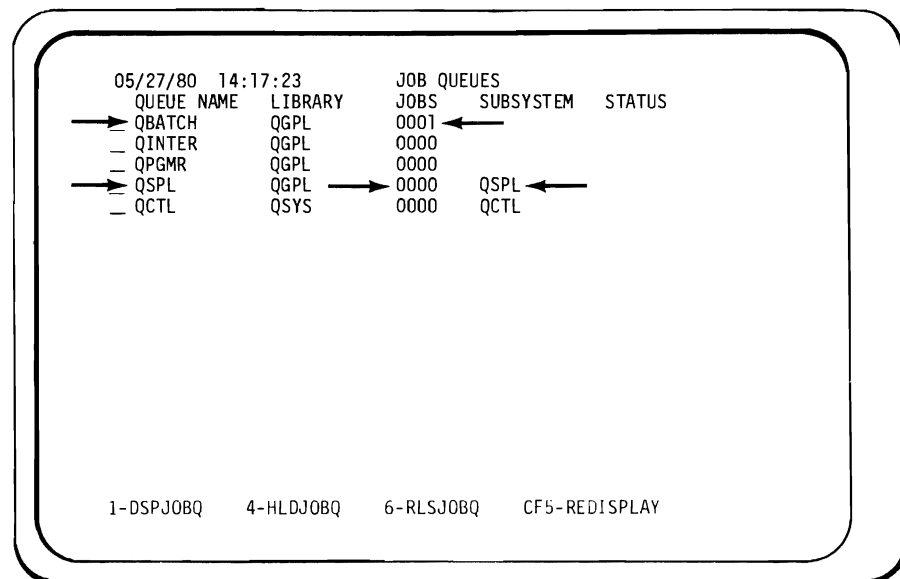
Step 9

Which command would you use to display the status for all job queues (to determine that your job is not on QSPL, but is on QBATCH)?

Answer

DSPJOBQ

Executing the command would give you the following display. Notice there is one entry in QBATCH and zero entries in QSPL. Also notice that the QSPL queue is associated with a subsystem QSPL because you started the subsystem in Step 8, but QBATCH queue has no subsystem associated with it because the QBATCH subsystem has not been started.

```
    05/27/80  14:17:23        JOB QUEUES
    QUEUE NAME   LIBRARY    JOBS    SUBSYSTEM   STATUS
 ─► QBATCH       QGPL       0001 ◄──
   _ QINTER      QGPL       0000
   _ QPGMR       QGPL       0000
 ─► QSPL         QGPL  ──► 0000    QSPL ◄──
   _ QCTL        QSYS       0000    QCTL




    1-DSPJOBQ    4-HLDJOBQ    6-RLSJOBQ    CF5-REDISPLAY
```

Step 10

Since there is one entry in the QBATCH job queue, what command and parameters would you use to display the QBATCH job queue?

Answer

DSPJOBQ   JOBQ(QBATCH)

Entering the command would give you the following display. Notice your job is there, has a priority (PTY) of 6 and its status is HELD.

```
 05/27/80  14:17:45    JOBQ - QBATCH      LIB - QGPL
   JOB NAME     USER       NBR      PTY    STATUS
 _ OPR1        QPGMR      000591      6     HELD












 1-DSPJOB    4-HLDJOB    6-RLSJOB    9-CNLJOB    CF5-REDISPLAY
```

Step 11

What command and parameters would you use to change the job priority to 3?

Answer

```
CHGJOB  JOB(OPR1)   JOBPTY(3)
```

Step 12

What command and parameters would you use to display the QBATCH job queue to display the priorities of all jobs in that queue?

Answer

```
DSPJOBQ   JOBQ(QBATCH)
```

Step 13

What command and parameters would you use to display information about your job OPR1?

Answer

```
DSPJOB   JOB(OPR1)
```

Entering the command would give you a list of options. Selection 3 will produce the following display. Notice the job priority is 3. Other options provide more information including the status attributes and the execution attributes.

```
 01/09/81   9:57:18         JOB DEFINITION ATTRIBUTES
 JOB: OPR1              USER: OPGMR          NBR: 000591
   JOB QUEUE NAME:                 JOBQ     QBATCH
    LIBRARY NAME:                           QGPL
   JOB PRIORITY (ON JOBQ):        JOBPTY    3  ◄──────
   OUTPUT PRIORITY (ON OUTQ):     OUTPTY    6
   CANCEL SEVERITY:               CNLSEV    30
   JOB LOGGING (LVL SEV TEXT):    LOG       2 20 *SECLVL
   DEFAULT OUTPUT QUEUE NAME:     OUTQ      QPRINT
    LIBRARY NAME:                           QGPL
   JOB DATE:                      DATE      *SYSVAL
   JOB SWITCHES:                  SWS       00000000
```

Step 14

You now wish to start executing your job, but the batch subsystem has not been started. What command and parameters would you use to start the batch subsystem QBATCH?

Answer

STRSBS   SBSD(QBATCH)

Referring to your System/38 Batch Job Flow Overview, where will your job reside (A,B,C,D or E) and why?

Answer

B, because the job status initially was 'held'.

Step 15

What command and parameters would you use to release your job OPR1?

Answer

RLSJOB   JOB(OPR1)

Referring to your System/38 Batch Job Flow Overview where will your job reside (A,B,C,D or E) and why?

Answer

D, because the batch subsystem was started and the job was released. The batch processor (C) executed the job and placed it on the output queue (QPRINT). The spooling subsystem is active, but the printer writer has not been started.

You want to verify that your job OPR1 was executed by the system and determine its status. Various display commands (DSP) will again aid you in determining the job's status.

Step 16

Which command will display the status of all jobs in all subsystems and the jobs on the job queues and output queues?

Answer

DSPSBS

Executing the command would give you a display for each subsystem job. Notice the *OUTQ entry for OPR1. You could obtain the job display for OPR1 by entering a 1 on that line and pressing ENTER/REC ADV.

```
01/09/81    9:45:31           SUBSYSTEM JOBS - *OUTQ
  JOB NAME   USER           NBR     TYPE     STATUS
  OPR1       QPGMR          XXXXXX  BATCH    OUTQ
  OPR4       QPGMR          XXXXXX  BATCH    OUTQ


1-DSPJOB   2-SPL FILES   4-HLDJOB   6-RLSJOB   9-CNLJOB
```

Step 17

What command would you use to verify that your job is not on the QBATCH job queue?

Answer

DSPJOBQ or DSPJOBQ JOBQ(QBATCH)

Step 18

What command and parameters would you use to display the status of your job OPR1?

Answer

DSPJOB JOB(OPR1)

Executing the command and selecting option 2 will give you the
following display. Notice its status is on the OUTQ. As before, options
3 and 4 will provide information about the priorities and so forth.

```
  01/28/81  9:43:21        JOB STATUS ATTRIBUTES                    +++
 JOB: OPR1            USER: QPGMR        NBR: 003859
  STATUS:               OUTQ  ◄————
  JOB START TIME:       09:17:57
  SUBSYSTEM NAME:
  SUBSYSTEM POOL ID:
  SUBMITTED BY JOB:                 USER:           NBR:
  JOB TYPE:             BATCH
  JOB RETURN CODE:
  CONTROLLED CANCEL REQUESTED:
```

From the above display in Step 18, you could press CF3 to find out
the file information. After pressing CF3, the following display would
appear. Notice you have two files QPDSPLIB (your report) and
QPJOBLOG (job log for your job).

```
 05/27/80 14:20:59 JOB- OPR1      USER- QPGMR      NBR- 000591
   FILE NAME  NBR   OUTQ      LIBRARY    PTY RCD/PAG  STATUS
 _ QPDSPLIB  0001  QPRINT    QGPL        6     2P     RDY
 ‾ QPJOBLOG  0002  QPRINT2   QGPL        6     1P     RDY
         ↑

 1-DSPSPLF  2-DSPSPLFA  4-HLDSPLF  6-RLSSPLF  9-CNLSPLF
```

Step 19

What command would you use to display all output queues?

Answer

DSPOUTQ

Executing the command will give you the following display. Notice that QPRINT has one file which is for your job.

```
01/09/81  10:04:28          OUTPUT QUEUES
   QUEUE NAME    LIBRARY    FILES    WRITER      STATUS
 _ QDKT          QGPL         0
 _ QPRINT        QGPL         1 ←
 _ QPRINTS       QGPL         0
 _ QPRINT2       QGPL         2
 _ QPUNCH        QGPL         0


 1-DSPOUTQ    4-HLDOUTQ    6-RLSOUTQ
```

Step 20

Which command and parameters would you use to display the names of the files that are in the output queue QPRINT?

Answer

DSPOUTQ OUTQ(QPRINT)

Executing the command would give you the following display. Notice the file name QPDSPLIB. This is your print file and has a priority (PTY) of 6 and its status (STS) is ready (RDY) for printing.

```
05/27/80  14:58:38  OUTPUT QUEUE - QPRINT     LIB - QGPL
  FILE NAME  NBR  JOB NAME    USER      NBR   PTY RCD/PAG STS
_ QPDSPLIB   0001 OPR1        QPGMR    000601 6       2P RDY




  1-DSPSPLF    2-DSPSPLFA    4-HLDSPLF    6-RLSSPLF    9-CNLSPLF
```

Step 21

What command and parameters would you use to display the spool file attributes for the file QPDSPLIB from your job OPR1?

Answer

```
DSPSPLFA  FILE(QPDSPLIB)  JOB(OPR1)
```

Executing the command will give you the following display. Notice
that the number of copies is 1 and the number of file separators is 1.

```
01/09/81  10:13:21  SPOOLED FILE - QPDSPLIB    NBR - 0001  +++
JOB: OPR1          USER: QPGMR         NBR: 000591  OUTPUT PTY: 6
OUTPUT QUEUE: QPRINT       LIBRARY: QGPL          STATUS: READY
  DEVICE TYPE:         PRINTER     NUMBER OF COPIES:         1  ◄──
  OUTPUT SCHEDULE:     *FILEEND    FILE SEPARATORS:          1  ◄──
  HOLD FILE:          *NO          FORM TYPE:        *STD
  SAVE FILE:          *NO          FORM LENGTH/WIDTH:  66 132
  NUMBER OF PAGES:           2     LINES PER INCH:            6
  RECORD LENGTH:            0      OVERFLOW LINE NUMBER:    60
  FOLD RECORDS:       *NO          ALIGN FORMS:        *NO
CF3-CHGSPLFA
```

Step 22

You could actually display your file on your work station. What
command and parameters would you use to do this?

Answer

```
DSPSPLF  FILE(QPDSPLIB)  JOB(OPR1)
```

Step 23

You now wish to change the job output priority to 9 so it will print
last. What command and parameters are required to do this?

Answer

```
CHGJOB  JOB(OPR1)  OUTPTY(9)
```

Step 24

Your advisor says that two copies of the report are needed and that
there should be four file separators between the reports for the job.
What command and parameters are needed to change the spool file
attributes?

Answer

```
CHGSPLFA  FILE(QPDSPLIB)  JOB(OPR1)  COPIES(2)
FILESEP(4)
```

Step 25

What command and parameters would you use to verify that these changes have been made and to display the new attributes?

Answer

```
DSPSPLFA  FILE(QPDSPLIB)  JOB(OPR1)
```

Step 26

Reviewing the last sequence of events, you started the batch subsystem and released your job. The QBATCH SUBSYSTEM processed your job and placed the printed output on the output queue QPRINT. You also changed the attributes of the spool file, and displayed your job and the system at various stages. As determined before, the report still has not printed from the output queue QPRINT because the printer writer has not been started. What command and parameters would you use to start the printer writer for the device QSYSPRT?

Answer

```
STRPRTWTR  DEV(QSYSPRT)  OUTQ(QPRINT)
```

Entering the command will print your report and this job is finished. Now you could either continue your normal day-to-day operations or cause a controlled shutdown of the system.

This would not necessarily be the number of steps required in your company to run a batch job. Assuming you had already started the subsystems and the printer writer, and did not want to change priorities or the number of copies of the report, the only steps required would be to start the diskette reader (STRDKTRDR) and release the job (RLSJOB) (because it was held). This desk exercise allowed you to trace a job through the system using the System/38 Batch Job Flow Overview and to display the status of the job at various stages.

You should notify your advisor that you have completed this exercise and that you are ready to begin the actual machine exercise.

Chapter 2 — Operator's Lab

INTRODUCTION

Normally you would simply start the essential components in the batch job flow, start the necessary readers and the batch jobs would run. Your interaction with each batch job would then be minimal.

There are times, however, when you will need to know more. Then you will need to be familiar with the commands at your disposal for controlling, or inquiring about, any given job. A good example of this might be the need to reassign job execution priorities so that a particular job can be expedited ahead of the other jobs in the queue.

This lab is designed to help you begin this task of command familiarization. You will be given a few diskette-resident jobs and asked to process them. The way you process them will determine how they will generate their associated printouts. You will be asked to select and enter some of the commands at your disposal (reference the Batch Job Flow Overview). When you enter them all properly, the jobs will yield a unique set of printouts, quickly showing that you have mastered this exercise.

You should also note that you will be controlling these jobs in a sort of "slow motion" way. That is, you will be moving each job through each component of the batch job flow (labeled A through E on the Batch Job Flow Overview). This will allow you to verify your present understanding of the system and possibly correct any remaining misunderstandings.

You should, therefore, take advantage of this opportunity to carefully relate the chart, the commands listed there and where each of these jobs are at any moment. Stick to the requested commands (given below) on your first try. That way you will know very quickly whether you grasp the essentials. You might consider noting alternatives you'd like to explore on a later rerun of the job stream.

LAB DETAILS

1. The diskette supplied with this course contains four jobs named OPR1, OPR2, OPR3 and OPR4. All jobs are designated to be held in the job queue. (This is so you can better control each job's movements through the batch subsystem.)

   Study the following listing of the job statements as they appear on the course diskette.

```
 1.00  //JOB      JOB(OPR1) JOBPTY(6) OUTPTY(6) HOLD(*YES)
 2.00  DSPLIB     LIB(QGPL) OUTPUT(*LIST)
 3.00  //ENDJOB
 4.00  //JOB      JOB(OPR2) JOBPTY(7) OUTPTY(7) HOLD(*YES)
 5.00  DSPLIBL    OUTPUT(*LIST)
 6.00  //ENDJOB
 7.00  //JOB      JOB(OPR3) JOBPTY(8) OUTPTY(8) HOLD(*YES)
 8.00  DSPDKT     LOC(*S1) OUTPUT(*LIST)
 9.00  //ENDJOB
10.00  //JOB      JOB(OPR4) JOBPTY(9) OUTPTY(9) HOLD(*YES)
11.00  DSPDEVCFG  OUTPUT(*LIST)
12.00  //ENDJOB
```

JOB OPR1 — Will print (OUTPUT *LIST) the members in the general
purpose library.

JOB OPR2 — Will print the user library list associated with your
terminal.

JOB OPR3 — Will print the data file label of the diskette you will
mount in step 10.

JOB OPR4 — Will print the device configuration of your system.

2. You will see the following symbols used throughout the exercise.
   They will alert you to the following:

Symbol	Meaning
√	A note of interest—read
√√	Explanation of the step you will be performing
⟶	Do this. The commands you should enter are underlined.

3. You will notice that the displays in this exercise writeup have
   xxxxxx's in place of an actual job number. This is because the
   system assigns the job number, and the number that is assigned
   will vary every time a job is submitted.

4. Turn to the next page and begin the exercise.

OPERATOR/SERVICE PANEL

Control Supply

Power Check Thermal Check SCA Check Machine Check

0 1 2 3 4 5 6 7

Run I/O Manual 8 9 10 11 12 13 14 15

1

0 Normal	
1 Alt IMPL Abbr	F Reset SCA
2 Alt IMPL	E
3 Enable	D Status Display
4 IMPL Abbr	C CPU Request
5 IMPL	B IOC1 Adr Stop
6 CPU Stop	A IOC1 Insn Step
7 CPU Start	9 Dump MS
8 Save/Restore	

2

0 Normal	
1 Options	F CPU Diag
2 AIPL	E No Retry
3 Stop	D Console Diag
4 Force Pwr Off	C
5 Routine Stop	B Lamp Test
6 Loop	A Cable Test
7 Continue	9 Previous Fault
8 Present Fault/Search	

Power On   Load   Display Intensity   Alarm Volume

Auto IMPL Off   Attention

Step 1

Set the multifunction rotary switches to the "5" and "0" settings.

1

0 Normal	
1 Alt IMPL Abbr	F Reset SCA
2 Alt IMPL	E
3 Enable	D Status Display
4 IMPL Abbr	C CPU Request
→ 5 IMPL	B IOC1 Adr Stop
6 CPU Stop	A IOC1 Insn Step
7 CPU Start	9 Dump MS
8 Save/Restore	

2

0 Normal	
1 Options	F CPU Diag
2 AIPL	E No Retry
3 Stop	D Console Diag
4 Force Pwr Off	C
5 Routine Stop	B Lamp Test
6 Loop	A Cable Test
7 Continue	9 Previous Fault
8 Present Fault/Search	
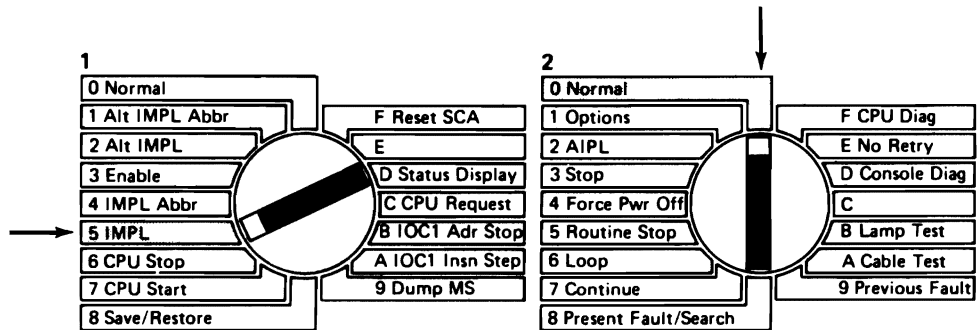
Step 2

Unlock the Power Keylock, if that feature is present on your System/38.

Control Supply	Power Check	Thermal Check	SCA Check	Machine Check

0	1	2	3	4	5	6	7

| Run | I/O | Manual | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |

1

0 Normal	
1 Alt IMPL Abbr	F Reset SCA
2 Alt IMPL	E
3 Enable	D Status Display
4 IMPL Abbr	C CPU Request
5 IMPL	B IOC1 Adr Stop
6 CPU Stop	A IOC1 Insn Step
7 CPU Start	9 Dump MS
8 Save/Restore	

2

0 Normal	
1 Options	F CPU Diag
2 AIPL	E No Retry
3 Stop	D Console Diag
4 Force Pwr Off	C
5 Routine Stop	B Lamp Test
6 Loop	A Cable Test
7 Continue	9 Previous Fault
8 Present Fault/Search	

Display Intensity   Alarm Volume

Power On   Load

Auto IMPL Off   Attention

Step 3

Press the Power On Button. (Allow several minutes for this step.)

Control Supply	Power Check	Thermal Check	SCA Check	Machine Check

0	1	2	3	4	5	6	7

| Run | I/O | Manual | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |

1

0 Normal	
1 Alt IMPL Abbr	F Reset SCA
2 Alt IMPL	E
3 Enable	D Status Display
4 IMPL Abbr	C CPU Request
5 IMPL	B IOC1 Adr Stop
6 CPU Stop	A IOC1 Insn Step
7 CPU Start	9 Dump MS
8 Save/Restore	

2

0 Normal	
1 Options	F CPU Diag
2 AIPL	E No Retry
3 Stop	D Console Diag
4 Force Pwr Off	C
5 Routine Stop	B Lamp Test
6 Loop	A Cable Test
7 Continue	9 Previous Fault
8 Present Fault/Search	

Display Intensity   Alarm Volume

Power On   Load

Auto IMPL Off   Attention

Step 4

Return the rotary switches to the 0-0 (zero, zero) settings.

Step 5

Enter the system operator's password, SYSOPR (or the password your advisor has given you) when the following sign-on screen appears. Press ENTER after entering your password.

```
Enter password to sign on:

_
```

Step 6

Enter the correct date and time when the following START CONTROL PROGRAM FACILITY PROMPT appears. Take the default values for the other prompts that are on the screen. Press ENTER after keying your entries. Allow several minutes for this step to complete.

```
                    START CONTROL PROGRAM FACILITY PROMPT
        Enter the following:
          System date (MDY):                     11 / 17 / 80
          System time:                           00 : 00 : 00
          Job queues (*KEEP *CLEAR):             *KEEP
          Output queues (*KEEP *CLEAR):          *KEEP
          Incomplete job logs (*KEEP *CLEAR):    *KEEP
          Configuration menu (*NO *YES):         *NO
          Data base recovery wait
             (*NO *YES):                         *NO

          Last termination was NORMAL
```

Step 7

After IMPL and after you have signed on as the system operator, the system sets the delivery mode of the system operator message queue (QSYSOPR) to *BREAK mode.

Depending upon the severity code setting of the system operator message queue, the following messages may be displayed. Respond as shown if they appear; otherwise continue with Step 8.

```
QSYSOPR    *BREAK

   control unit . . . . . contacted
```

� [ENTER] (To continue)

```
QSYSOPR    *BREAK
   :
   Subsystem QCTL started
```

➝ [CF8] (To clear the queue)

Step 8

The basic systems startup process is complete and the following System Operator Menu will appear (unless the password you entered is not SYSOPR, in which case your advisor will tell you how to receive this display).

```
                        SYSTEM OPERATOR MENU
          SELECT ONE OF THE FOLLOWING:
            1. DSPJOBQ (JOBQ)                7. STRPRTWTR   DEVICE,OUTQ
            2. DSPOUTQ (OUTQ)                8. CNLWTR      WRITER
            3. SNDMSG  TOMSGQ,(TYPE),MSG     9. STRDKTRDR   DEVICE,LABEL
            4. CALL    PROGRAM              10. CNLRDR      READER
            5. EXECUTE COMMAND              90. SIGNOFF     (*NOLIST *LIST)
            6. SBMJOB  (JOB),(JOBD),(CMD)
          OPTION:___  PARMS:_____  _____
          MSG OR CMD: _____

          LOG REQUESTS: *YES      CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
          CF6-DSPMSG QSYSOPR      CF7-DSPSBS          CF8-DSPSYS
```

√√ (CHANGE THE DELIVERY MODE OF THE SYSTEM OPERATOR MESSAGE QUEUE TO *HOLD)

```
                        SYSTEM OPERATOR MENU
          SELECT ONE OF THE FOLLOWING:
            1. DSPJOBQ (JOBQ)                7. STRPRTWTR   DEVICE,OUTQ
            2. DSPOUTQ (OUTQ)                8. CNLWTR      WRITER
            3. SNDMSG  TOMSGQ,(TYPE),MSG     9. STRDKTRDR   DEVICE,LABEL
            4. CALL    PROGRAM              10. CNLRDR      READER
            5. EXECUTE COMMAND              90. SIGNOFF     (*NOLIST *LIST)
            6. SBMJOB  (JOB),(JOBD),(CMD)
          OPTION: 5   PARMS:_____
          MSG OR CMD: CHGMSGQ MSGQ(QSYSOPR) DLVRY(*HOLD) SEV(00)

          LOG REQUESTS: *YES      CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
          CF6-DSPMSG QSYSOPR      CF7-DSPSBS          CF8-DSPSYS
```

→ ENTER

Step 9

√ **(CONSOLE ATTENTION LIGHT ON?)**
√√ **(DISPLAY THE CONSOLE MESSAGE QUEUE)**
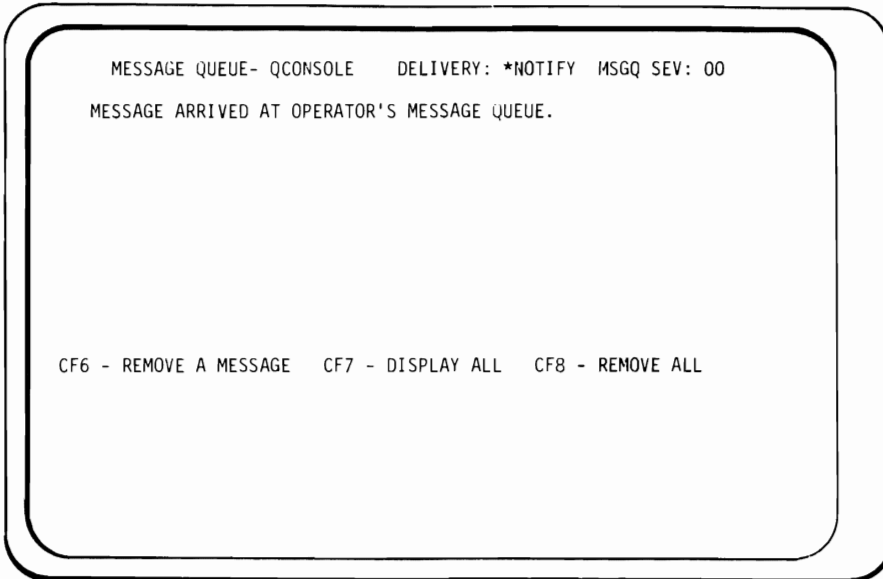
```
                        SYSTEM OPERATOR MENU
      SELECT ONE OF THE FOLLOWING:
         1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
         2. DSPOUTQ (OUTQ)              8. CNLWTR     WRITER
         3. SNDMSG  TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
         4. CALL    PROGRAM            10. CNLRDR     READER
         5. EXECUTE COMMAND            90. SIGNOFF    (*NOLIST *LIST)
         6. SBMJOB  (JOB),(JOBD),(CMD)
      OPTION: 5  PARMS:
      MSG OR CMD: DSPMSG  (BLANK THIS AREA)

      LOG REQUESTS: *YES   CF3-COMMAND ENTRY  CF4-PROMPT (5 ONLY)
      CF6-DSPMSG QSYSOPR   CF7-DSPSBS         CF8-DSPSYS
```

→ ENTER

√√ **(CONSOLE MESSAGE QUEUE DISPLAYED)**

```
      MESSAGE QUEUE- QCONSOLE    DELIVERY: *NOTIFY  MSGQ SEV: 00

      MESSAGE ARRIVED AT OPERATOR'S MESSAGE QUEUE.




      CF6 - REMOVE A MESSAGE   CF7 - DISPLAY ALL   CF8 - REMOVE ALL
```

→ CF8

Step 10

√√ (DO NOT PRESS READY ON THE PRINTER. THE PRINTER WILL
BE 'READIED' LATER IN THE COURSE.)

——→ (MOUNT COURSE DISKETTE IN SLOT S1)

√√ (ENTER A COMMAND TO READ ALL JOBS FROM DISKETTE.
THE START DISKETTE READER COMMAND DEFAULTS
LOCATION (LOC) TO A MAGAZINE AND (LOC) CHOICE IS NOT
PROVIDED IN OPTION 9. SINCE THE DISKETTE IS NOT IN A
MAGAZINE, YOU MUST USE OPTION 5.)

```
                        SYSTEM OPERATOR MENU
        SELECT ONE OF THE FOLLOWING:
          1. DSPJOBQ  (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
          2. DSPOUTQ  (OUTQ)              8. CNLWTR     WRITER
          3. SNDMSG   TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
          4. CALL     PROGRAM            10. CNLRDR     READER
          5. EXECUTE  COMMAND            90. SIGNOFF    (*NOLIST *LIST)
          6. SBMJOB   (JOB),(JOBD),(CMD)
        OPTION: 5   PARMS:
        MSG OR CMD: STRDKTRDR DEV(QDKT) LABEL(MASTER) LOC(*S1)

        LOG REQUESTS: *YES    CF3-COMMAND ENTRY    CF4-PROMPT (5 ONLY)
        CF6-DSPMSG QSYSOPR    CF7-DSPSBS           CF8-DSPSYS
```

——→ ENTER

Step 11

√ (NOTE THE READER SUBMITTED MESSAGE)
√√ (DISPLAY ALL ACTIVE SUBSYSTEMS)

→ | CF8 |

```
                    SYSTEM OPERATOR MENU
SELECT ONE OF THE FOLLOWING:
   1. DSPJOBQ  (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
   2. DSPOUTQ  (OUTQ)              8. CNLWTR     WRITER
   3. SNDMSG   TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
   4. CALL     PROGRAM            10. CNLRDR     READER
   5. EXECUTE  COMMAND            90. SIGNOFF    (*NOLIST *LIST)
   6. SBMJOB   (JOB),(JOBD),(CMD)
OPTION ____  PARMS: _____
MESSGN CMD:  STRDKTRDR DEV(QDKT) LABEL(MASTER) LOC(*S1)

LOG REQUESTS: *YES   CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
CF6-DSPMSG QSYSOPR   CF7-DSPSBS          CF8-DSPSYS
SPOOL SBS NOT ACTIVE TO JOBQ QSPL.QGPL. RDR OR WTR QDKT.QSYS.
RDR OR WTR QDKT.QSYS.OOOXXX SUBMITTED TO JOBQ QSPL.QGPL.
```

√

√ (SUBSYSTEMS QSPL AND QBATCH ARE <u>NOT</u> ACTIVE)
√ (ONLY THE CONTROLLING SUBSYSTEM IS ACTIVE)

```
09/04/81  16:45:58        SYSTEM DISPLAY
  SUBSYSTEM    SBS    ACT          TOTAL     SYS POOLS BY SBS
  NAME       NUMBER  JOBS STATUS  STORAGE    1  2  3  4  5
  QCTL       OOOXXX    1  ACTIVE    0 K      2



  1-DSPSBS    2-DSPSBSD   9-TRMSBS           CF3-DSPSYSSTS
                                             CF5-REDISPLAY
```

→ | ENTER |

Step 12

√√ (FIND OUT HOW MANY POOLS ARE USED, THEIR SIZES, ETC.)

```
                        SYSTEM OPERATOR MENU
     SELECT ONE OF THE FOLLOWING:
       1. DSPJOBQ  (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
       2. DSPOUTQ  (OUTQ)              8. CNLWTR     WRITER
       3. SNDMSG   TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
       4. CALL     PROGRAM            10. CNLRDR     READER
       5. EXECUTE  COMMAND            90. SIGNOFF    (*NOLIST *LIST)
       6. SBMJOB   (JOB),(JOBD),(CMD)
     OPTION: 5   PARMS: _____    _____
     MSG OR CMD: DSPSYSSTS _____

     LOG REQUESTS: *YES   CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
     CF6-DSPMSG QSYSOPR   CF7-DSPSBS          CF8-DSPSYS
```
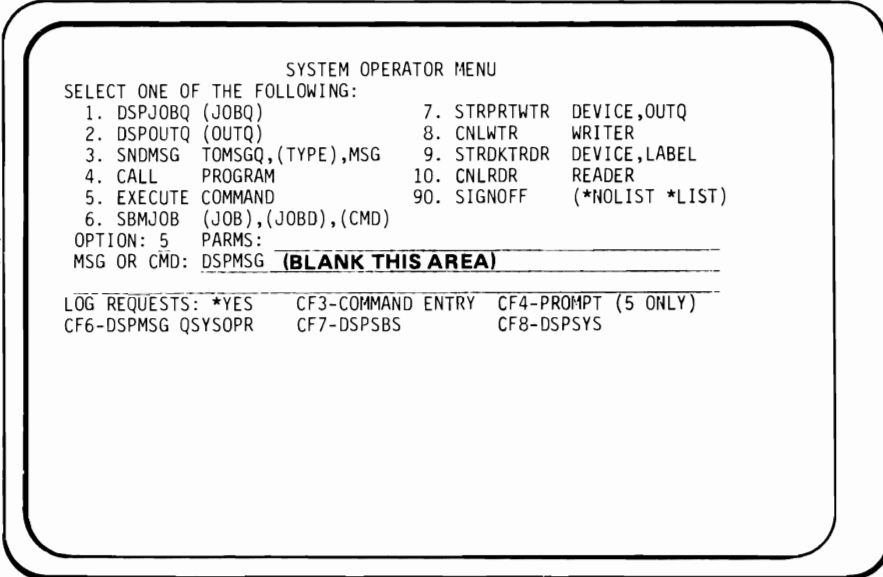
→
→

→ [ENTER]

√ (THE REST OF THE INFO IS GENERALLY FOR SYSTEMS
   ANALYSTS)

```
     05/27/80 15:50:54    SYSTEM STATUS DISPLAY
     START: 15:50:53 ELAPSED:         .55  CPU USE:      .26 =  47%
     AUXILIARY STORAGE USED:   28%          JOBS IN SYSTEM:     5
     SYS      DB      DB      NON-DB NON-DB   MAX  ACT->  WAIT->
     POOL SIZE FAULTS PAGES   FAULTS PAGES    ACT  WAIT   INELG
√    01   400K    .00    .00    .00    .00     6    .00    .00
√    02   956K    .00    .00   7.27  32.72     6    .00    .00




     CF3 - DSPSYS            CF5 -REDISPLAY   CF6 - RESET START
```

→ [ENTER]

Step 13

√√ (FIND OUT WHERE THE REQUEST TO READ THE DISKETTE IS NOW)

```
                        SYSTEM OPERATOR MENU
         SELECT ONE OF THE FOLLOWING:
           1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
           2. DSPOUTQ (OUTQ)              8. CNLWTR     WRITER
           3. SNDMSG  TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
           4. CALL    PROGRAM            10. CNLRDR     READER
           5. EXECUTE COMMAND            90. SIGNOFF    (*NOLIST *LIST)
           6. SBMJOB  (JOB),(JOBD),(CMD)
         OPTION: 1    PARMS: _____   _____
         MSG OR CMD: DSPSYSSTS

         LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
         CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```

→ [ENTER]

√ (WE CAN NOW SEE HOW MANY JOBS ARE IN <u>ALL</u> SYSTEM/38 JOBQs)

√ (THE START DISKETTE READER REQUEST (STEP 10) IS ON THE QSPL JOB QUEUE WAITING TO BE READ BY THE QSPL SUBSYSTEM WHEN THE QSPL SUBSYSTEM IS STARTED)

```
  10/02/81   9:53:13      JOB QUEUES
     QUEUE NAME   LIBRARY    JOBS   SUBSYSTEM    STATUS
  _  QBATCH       QGPL        0
  _  QINTER       QGPL        0
  _  QPGMR        QGPL        0
  _  QSPL         QGPL        1
  _  QCTL         QSYS        0     QCTL




   1-DSPJOBQ   4-HLDJOBQ   6-RLSJOBQ        CF5-REDISPLAY
```

→ ENTER

Step 14

√√ **(FIND OUT WHICH SUBSYSTEMS ARE ACTIVE NOW)**

→ CF7

```
                        SYSTEM OPERATOR MENU
         SELECT ONE OF THE FOLLOWING:
            1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
            2. DSPOUTQ (OUTQ)              8. CNLWTR     WRITER
            3. SNDMSG   TOMSGQ,(TYPE),MSG  9. STRDKTRDR  DEVICE,LABEL
            4. CALL     PROGRAM           10. CNLRDR     READER
            5. EXECUTE COMMAND            90. SIGNOFF    (*NOLIST *LIST)
            6. SBMJOB   (JOB),(JOBD),(CMD)
         OPTION:____ PARMS:_____  _____
         MSG OR CMD: DSPSYSSTS_____

         LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
         CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```

→

√√ **(THE SYSTEM OPERATOR JOB IS ACTIVE AND RUNNING UNDER THE QCTL SUBSYSTEM)**

```
         09/04/81  16:51:41        SUBSYSTEM JOBS - QCTL            +++
           JOB NAME   USER        NBR    TYPE    STATUS
         _ QCONSOLE   QSYSOPR     XXXXXX INTER   ACTIVE

















           1-DSPJOB   2-SPL FILES   4-HLDJOB   6-RLSJOB   9-CNLJOB
           CF5-REDISPLAY
```

→ ENTER

√√ (THE READ DISKETTE REQUEST IS ON THE QSPL JOB QUEUE)

```
09/04/81  16:52:48        SUBSYSTEM JOBS - *JOBQ              +++
   JOB NAME    USER       NBR    TYPE    STATUS
   QDKT        QSYS       XXXXXX RDR     JOBQ




   1-DSPJOB    2-SPL FILES    4-HLDJOB    6-RLSJOB    9-CNLJOB
   CF5-REDISPLAY
```

(UNTIL YOU RETURN TO THE SYSTEM OPERATOR MENU)

→ | ENTER |

Step 15

√√ (FIND OUT IF THERE'S ANYTHING IN <u>ANY</u> OUTPUT QUEUE)

```
                     SYSTEM OPERATOR MENU
   SELECT ONE OF THE FOLLOWING:
     1. DSPJOBQ  (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
     2. DSPOUTQ  (OUTQ)              8. CNLWTR     WRITER
     3. SNDMSG   TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
     4. CALL     PROGRAM            10. CNLRDR     READER
     5. EXECUTE  COMMAND            90. SIGNOFF    (*NOLIST *LIST)
     6. SBMJOB   (JOB),(JOBD),(CMD)
   OPTION: 2    PARMS:_____    _____
   MSG OR CMD: DSPSYSSTS_____

   LOG REQUESTS: *YES    CF3-COMMAND ENTRY    CF4-PROMPT (5 ONLY)
   CF6-DSPMSG QSYSOPR    CF7-DSPSBS           CF8-DSPSYS
```

→ | ENTER |

√ (NOTE: NO WRITERS ACTIVE AND NOTHING IN THE OUTPUT QUEUES)

√ (THERE WILL BE NO OUTPUT UNTIL WE GET A JOB RUNNING)

```
01/09/81    9:09:47        OUTPUT QUEUES
  QUEUE NAME    LIBRARY    FILES    WRITER      STATUS
_ QDKT          QGPL         0
_ QPRINT        QGPL         0
_ QPRINTS       QGPL         0
_ QPRINT2       QGPL         0
_ QPUNCH        QGPL         0




  1-DSPOUTQ    4-HLDOUTQ    6-RLSOUTQ    CF5-REDISPLAY
```

→ ENTER

Step 16

√√ (FIND OUT THE STATUS OF JOB OPR1)

```
                    SYSTEM OPERATOR MENU
         SELECT ONE OF THE FOLLOWING:
           1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE, OUTQ
           2. DSPOUTQ (OUTQ)             8. CNLWTR     WRITER
           3. SNDMSG  TOMSGQ,(TYPE),MSG  9. STRDKTRDR  DEVICE,LABEL
           4. CALL    PROGRAM           10. CNLRDR     READER
           5. EXECUTE COMMAND           90. SIGNOFF    (*NOLIST *LIST)
           6. SBMJOB  (JOB),(JOBD),(CMD)
→        OPTION: 5  PARMS:_____  _____
→        MSG OR CMD: DSPJOB JOB(OPR1)_____

         LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
         CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```

→ | ENTER |

(AS EXPECTED, IT IS "NOT FOUND" SINCE IT HAS NOT BEEN READ INTO THE SYSTEM YET)

```
                    SYSTEM OPERATOR MENU
         SELECT ONE OF THE FOLLOWING:
           1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
           2. DSPOUTQ (OUTQ)             8. CNLWTR     WRITER
           3. SNDMSG  TOMSGQ,(TYPE),MSG  9. STRDKTRDR  DEVICE,LABEL
           4. CALL    PROGRAM           10. CNLRDR     READER
           5. EXECUTE COMMAND           90. SIGNOFF    (*NOLIST *LIST)
           6. SBMJOB  (JOB),(JOBD),(CMD)
         OPTION:____ PARMS: _____  _____
         MSG OR CMD: DSPJOB JOB(OPR1)_____

         LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
         CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
√        JOB OPR1.. NOT FOUND.
```

Step 17

√√ **(START QSPL SUBSYSTEM NOW)**

```
                        SYSTEM OPERATOR MENU
         SELECT ONE OF THE FOLLOWING:
            1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
            2. DSPOUTQ (OUTQ)              8. CNLWTR     WRITER
            3. SNDMSG  TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
            4. CALL    PROGRAM            10. CNLRDR     READER
            5. EXECUTE COMMAND            ɝ0. SIGNOFF    (*NOLIST *LIST)
            6. SBMJOB  (JOB),(JOBD),(CMD)
         OPTION: 5   PARMS:_____      _____
         MSG OR CMD: STRSBS SBSD(QSPL)
         _____
         LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
         CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
         JOB OPR1.. NOT FOUND.
```

→ ENTER

Step 18

√ **(DISKETTE IS LOADED, THE JOB STREAM READ AND THEN THE DISKETTE IS UNLOADED)**

```
                        SYSTEM OPERATOR MENU
         SELECT ONE OF THE FOLLOWING:
            1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
            2. DSPOUTQ (OUTQ)              8. CNLWTR     WRITER
            3. SNDMSG  TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
            4. CALL    PROGRAM            10. CNLRDR     READER
            5. EXECUTE COMMAND            90. SIGNOFF    (*NOLIST *LIST)
            6. SBMJOB  (JOB),(JOBD),(CMD)
         OPTION:____ PARMS:_____      _____
         MSG OR CMD: STRSBS SBSD(QSPL)
         _____
         LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
         CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
         START OF SUBSYSTEM QSPL.QGPL IN PROGRESS.
```

√

√√ (EARLIER YOU PLACED THE SYSTEM OPERATOR MESSAGE
QUEUE IN A HOLD STATE. DISPLAY THE SYSTEM OPERATOR
MESSAGE QUEUE NOW.)

� → [CF6]

```
    MESSAGE QUEUE- QSYSOPR      DELIVERY: *HOLD    MSGQ SEV: 00
 START OF SUBSYSTEM QSPL.QGPL IN PROGRESS.
 SUBSYSTEM QSPL STARTED.
 READER QDKT.QSYS.000XXX STARTED.
 JOB OPR1.QPGMR.000XXX BEING READ BY RDR QDKT.QSYS.000XXX.
 JOB OPR2.QPGMR.000XXX BEING READ BY RDR QDKT.QSYS.000XXX.
 JOB OPR3.QPGMR.000XXX BEING READ BY RDR QDKT.QSYS.000XXX.
 JOB OPR4.QPGMR.000XXX BEING READ BY RDR QDKT.QSYS.000XXX.
 READER QDKT.QSYS.000XXX ENDED NORMALLY.




 CF6 - REMOVE A MESSAGE    CF7 - DISPLAY ALL   CF8 - REMOVE ALL
```

➡ → [CF8]

Step 19

√√ **(FIND OUT WHAT HAPPENED TO OUR 4 JOBS)**

```
                    SYSTEM OPERATOR MENU
        SELECT ONE OF THE FOLLOWING:
          1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
          2. DSPOUTQ (OUTQ)              8. CNLWTR     WRITER
          3. SNDMSG  TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
          4. CALL    PROGRAM            10. CNLRDR     READER
          5. EXECUTE COMMAND            90. SIGNOFF    (*NOLIST *LIST)
          6. SBMJOB  (JOB),(JOBD),(CMD)
        OPTION: 1   PARMS:_____  _____
        MSG OR CMD: STRSBS SBSD(QSPL)_____

        LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
        CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```

ENTER

√ (OUR FOUR JOBS HAVE BEEN MOVED FROM DISKETTE TO THE QBATCH JOBQ)

√ (QBATCH JOBQ IS NOT HELD, WHY ARE JOBS NOT COMPLETED?)

```
10/02/81  10:16:19       JOB QUEUES
   QUEUE NAME    LIBRARY     JOBS    SUBSYSTEM    STATUS
√  QBATCH        QGPL           4
_  QINTER        QGPL           0
_  QPGMR         QGPL           0
√  QSPL          QGPL           0    QSPL
_  QCTL          QSYS           0    QCTL




              (JOBS HERE)      (SPOOL READER
                                JOB COMPLETED)




1-DSPJOBQ    4-HLDJOBQ    6-RLSJOBQ              CF5-REDISPLAY
```

→ [ENTER]

Step 20

√√ (FIND OUT THE STATUS OF ALL JOBS IN QBATCH JOBQ)

```
                    SYSTEM OPERATOR MENU
     SELECT ONE OF THE FOLLOWING:
       1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
       2. DSPOUTQ (OUTQ)             8. CNLWTR     WRITER
       3. SNDMSG  TOMSGQ,(TYPE),MSG  9. STRDKTRDR  DEVICE,LABEL
       4. CALL    PROGRAM           10. CNLRDR     READER
       5. EXECUTE COMMAND           90. SIGNOFF    (*NOLIST *LIST)
       6. SBMJOB  (JOB),(JOBD),(CMD)
     OPTION: 1    PARMS: QBATCH_____      _____
     MSG OR CMD: STRSBS SBSD(QSPL)_____

     LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
     CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```

ENTER

√ (OUR 4 JOBS ARE IN QBATCH JOB QUEUE,
AWAITING EXECUTION. NOTE EXECUTION
PRIORITIES AND FACT THEY ALL WERE
DESIGNATED HELD STATUS.)

√ - - - - - - →

```
09/04/81 17:04:30  JOBQ - QBATCH              LIB - QGPL
   JOB NAME     USER         NBR      PTY    STATUS
 _ OPR1         QPGMR        000XXX    6      HELD
 _ OPR2         QPGMR        000XXX    7      HELD
 _ OPR3         QPGMR        000XXX    8      HELD
 _ OPR4         QPGMR        000XXX    9      HELD







  1-DSPJOB    4-HLDJOB    6-RLSJOB    9-CNLJOB    CF5-REDISPLAY
```

√√ (COMPARE JOB NAME, PTY, AND STATUS WITH THE JOB
COMMANDS LISTING SHOWN IN THE LAB DETAILS SECTION
AT THE BEGINNING OF THIS OPERATOR'S LAB)

→ | ENTER |

Step 21

√√ (CHANGE THE JOB OPR2 <u>EXECUTION</u> PRIORITY FROM 7 TO 3)

```
                      SYSTEM OPERATOR MENU
        SELECT ONE OF THE FOLLOWING:
          1. DSPJOBQ (JOBQ)                7. STRPRTWTR  DEVICE,OUTQ
          2. DSPOUTQ (OUTQ)                8. CNLWTR     WRITER
          3. SNDMSG  TOMSGQ,(TYPE),MSG     9. STRDKTRDR  DEVICE,LABEL
          4. CALL    PROGRAM              10. CNLRDR     READER
          5. EXECUTE COMMAND              90. SIGNOFF    (*NOLIST *LIST)
          6. SBMJOB  (JOB),(JOBD),(CMD)
        OPTION: 5   PARMS: QBATCH                     _____
        MSG OR CMD: CHGJOB JOB(OPR2) JOBPTY(3)

        LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
        CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```

→ ENTER

Step 22

√√ (DISPLAY THE QSYSOPR MESSAGE QUEUE)

→ | CF6 |

√
```
MESSAGE QUEUE- QSYSOPR      DELIVERY: *HOLD     MSGQ SEV: 00
      JOB OPR2.QPGMR.000XXX CHANGED BY QSYSOPR.




      CF6 - REMOVE A MESSAGE    CF7 - DISPLAY ALL   CF8 - REMOVE ALL
```

→ | CF8 |

Step 23

√√ (ENTER THE COMMAND TO CANCEL THE FOURTH JOB IN
FROM OUR DISKETTE)

```
                              SYSTEM OPERATOR MENU
           SELECT ONE OF THE FOLLOWING:
              1. DSPJOBQ (JOBQ)                 7. STRPRTWTR  DEVICE,OUTQ
              2. DSPOUTQ (OUTQ)                 8. CNLWTR     WRITER
              3. SNDMSG  TOMSGQ,(TYPE),MSG      9. STRDKTRDR  DEVICE,LABEL
              4. CALL    PROGRAM               10. CNLRDR     READER
              5. EXECUTE COMMAND               90. SIGNOFF    (*NOLIST *LIST)
              6. SBMJOB  (JOB),(JOBD),(CMD)
           OPTION: 5   PARMS: QBATCH _____   _____
           MSG OR CMD: CNLJOB JOB(OPR4) _____

           LOG REQUESTS: *YES    CF3-COMMAND ENTRY    CF4-PROMPT (5 ONLY)
           CF6-DSPMSG QSYSOPR    CF7-DSPSBS           CF8-DSPSYS
```

→ [ENTER]

√√ (NOTICE THE JOB CANCELED MESSAGE)

```
                              SYSTEM OPERATOR MENU
           SELECT ONE OF THE FOLLOWING:
              1. DSPJOBQ (JOBQ)                 7. STRPRTWTR  DEVICE,OUTQ
              2. DSPOUTQ (OUTQ)                 8. CNLWTR     WRITER
              3. SNDMSG  TOMSGQ,(TYPE),MSG      9. STRDKTRDR  DEVICE,LABEL
              4. CALL    PROGRAM               10. CNLRDR     READER
              5. EXECUTE COMMAND               90. SIGNOFF    (*NOLIST *LIST)
              6. SBMJOB  (JOB),(JOBD),(CMD)
           OPTION:     PARMS: QBATCH _____   _____
           MSG OR CMD: CNLJOB JOB(OPR4) _____

           LOG REQUESTS: *YES    CF3-COMMAND ENTRY    CF4-PROMPT (5 ONLY)
           CF6-DSPMSG QSYSOPR    CF7-DSPSBS           CF8-DSPSYS
√          JOB OPR4.QPGMR.XXXXXX CANCELED FROM JOB QUEUE.
```

Step 24

√√ (DISPLAY THE CONTENTS OF QBATCH JOBQ)

```
                          SYSTEM OPERATOR MENU
              SELECT ONE OF THE FOLLOWING:
                1. DSPJOBQ (JOBQ)            7. STRPRTWTR  DEVICE,OUTQ
                2. DSPOUTQ (OUTQ)            8. CNLWTR     WRITER
                3. SNDMSG  TOMSGQ,(TYPE),MSG 9. STRDKTRDR  DEVICE,LABEL
                4. CALL    PROGRAM          10. CNLRDR     READER
                5. EXECUTE COMMAND          90. SIGNOFF    (*NOLIST *LIST)
                6. SBMJOB  (JOB),(JOBD),(CMD)
              OPTION: 1   PARMS: QBATCH              _____
              MSG OR CMD: CNLJOB  JOB(OPR4)   _____
              _____
              LOG REQUESTS: *YES   CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
              CF6-DSPMSG QSYSOPR   CF7-DSPSBS          CF8-DSPSYS
              JOB OPR4.QPGMR.XXXXXX CANCELED FROM JOB QUEUE.
```

→ [ENTER]

√ (OPR4 IS GONE)

√ (OPR2 NOW HAS TOP EXECUTION PRIORITY)

```
          09/04/81 17:12:56  JOBQ - QBATCH              LIB - QGPL
            JOB NAME     USER          NBR      PTY     STATUS
            OPR2         QPGMR         000XXX     3      HELD
            OPR1         QPGMR         000XXX     6      HELD
            OPR3         QPGMR         000XXX     8      HELD
```

√   (ALL JOBS ARE STILL
         INDIVIDUALLY CLASSIFIED AS HELD)

```
          1-DSPJOB    4-HLDJOB    6-RLSJOB    9-CNLJOB    CF5-REDISPLAY
```

→ [ENTER]

Step 25

√√ **(START SUBSYSTEM QBATCH — GET OUR 3 REMAINING JOBS TO EXECUTE)**

```
                    SYSTEM OPERATOR MENU
SELECT ONE OF THE FOLLOWING:
  1. DSPJOBQ (JOBQ)              7. STRPRTWTR   DEVICE,OUTQ
  2. DSPOUTQ (OUTQ)              8. CNLWTR      WRITER
  3. SNDMSG  TOMSGQ,(TYPE),MSG   9. STRDKTRDR   DEVICE,LABEL
  4. CALL    PROGRAM            10. CNLRDR      READER
  5. EXECUTE COMMAND            90. SIGNOFF     (*NOLIST *LIST)
  6. SBMJOB  (JOB),(JOBD),(CMD)
OPTION: 5   PARMS: QBATCH_____  _____
MSG OR CMD: STRSBS SBSD(QBATCH)_____


LOG REQUESTS: *YES    CF3-COMMAND ENTRY    CF4-PROMPT (5 ONLY)
CF6-DSPMSG QSYSOPR    CF7-DSPSBS           CF8-DSPSYS
```

→ ENTER

```
                    SYSTEM OPERATOR MENU
SELECT ONE OF THE FOLLOWING:
  1. DSPJOBQ (JOBQ)              7. STRPRTWTR   DEVICE,OUTQ
  2. DSPOUTQ (OUTQ)              8. CNLWTR      WRITER
  3. SNDMSG  TOMSGQ,(TYPE),MSG   9. STRDKTRDR   DEVICE,LABEL
  4. CALL    PROGRAM            10. CNLRDR      READER
  5. EXECUTE COMMAND            90. SIGNOFF     (*NOLIST *LIST)
  6. SBMJOB  (JOB),(JOBD),(CMD)
OPTION: ___ PARMS: QBATCH_____  _____
MSG OR CMD: STRSBS SBSD(QBATCH)_____


LOG REQUESTS: *YES    CF3-COMMAND ENTRY    CF4-PROMPT (5 ONLY)
CF6-DSPMSG QSYSOPR    CF7-DSPSBS           CF8-DSPSYS
START OF SUBSYSTEM QBATCH.QGPL IN PROGRESS.
```

√

Operator's Lab   17-45

Step 26

√√ **(DISPLAY MESSAGES)**

➡ | CF6 |

```
   MESSAGE QUEUE- QSYSOPR     DELIVERY: *HOLD    MSGQ SEV: 00
JOB OPR4.QPGMR.OOOXXX CANCELED FROM JOBQ BY USER QSYSOPR.
START OF SUBSYSTEM QBATCH.QGPL IN PROGRESS.
SUBSYSTEM QBATCH STARTED.




 
 
 
 
 
 
 
 
 
 CF6 - REMOVE A MESSAGE   CF7 - DISPLAY ALL   CF8 - REMOVE ALL
```

➡ | CF8 |

√√ **(REMEMBER: OUR JOBS ARE ALL STATUS: HELD, IN THE QBATCH JOB QUEUE AS WE SAW IN STEP 24)**

Step 27

√√ (RELEASE JOB OPR1 FROM 'HELD' STATUS AND ALLOW THE
     QBATCH SUBSYSTEM TO PROCESS IT)

```
                       SYSTEM OPERATOR MENU
         SELECT ONE OF THE FOLLOWING:
            1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
            2. DSPOUTQ (OUTQ)              8. CNLWTR     WRITER
            3. SNDMSG  TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
            4. CALL    PROGRAM            10. CNLRDR     READER
            5. EXECUTE COMMAND            90. SIGNOFF    (*NOLIST *LIST)
            6. SBMJOB  (JOB),(JOBD),(CMD)
         OPTION: 5   PARMS: QBATCH _____    _____
         MSG OR CMD: RLSJOB JOB(OPR1) _____

         _____
         LOG REQUESTS: *YES   CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
         CF6-DSPMSG QSYSOPR   CF7-DSPSBS          CF8-DSPSYS
```

→ [ENTER]

Step 28

√√ (DISPLAY MESSAGE)

➤ CF6

```
  MESSAGE QUEUE- QSYSOPR    DELIVERY: *HOLD     MSGQ SEV: 00
JOB OPR1.QPGMR.OOXXXX RELEASED BY USER QSYSOPR.




CF6 - REMOVE A MESSAGE   CF7 - DISPLAY ALL   CF8 - REMOVE ALL
```

➤ CF8

Step 29

√ (NOTHING SEEMS TO BE HAPPENING)

√√ (DISPLAY ALL SUBSYSTEMS)

→ [CF7] THEN

[ENTER] (REPEATEDLY TILL THE FOLLOWING SCREEN APPEARS)

√ (OPR2 AND OPR3 ARE STILL HELD IN JOBQ)

```
09/04/81  17:18:15          SUBSYSTEM JOBS - *JOBQ              +++
  JOB NAME    USER          NBR    TYPE    STATUS
_ OPR2        QPGMR         000XXX BATCH   JOBQ    HELD
_ OPR3        QPGMR         000XXX BATCH   JOBQ    HELD




1-DSPJOB    2-SPL FILES    4-HLDJOB    6-RLSJOB    9-CNLJOB
CF5-REDISPLAY
```

→ [ENTER]

√ **(JOBS OPR1, OPR4 AND QDKT HAVE SOMETHING IN THE OUTQ)**

```
10/02/81  10:33:43           SUBSYSTEM JOBS - *OUTQ
  JOB NAME   USER           NBR    TYPE    STATUS
_ QDKT       QSYS           XXXXXX RDR     OUTQ
_ OPR1       QPGMR          XXXXXX BATCH   OUTQ
_ OPR4       QPGMR          XXXXXX BATCH   OUTQ




1-DSPJOB    2-SPL FILES    4-HLDJOB    6-RLSJOB    9-CNLJOB
CF5-REDISPLAY
```

→ [ENTER]

Step 30

√√ (ENTER THE COMMAND TO DISPLAY JOB OPR1)

```
                      SYSTEM OPERATOR MENU
         SELECT ONE OF THE FOLLOWING:
           1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
           2. DSPOUTQ (OUTQ)              8. CNLWTR     WRITER
           3. SNDMSG  TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
           4. CALL    PROGRAM            10. CNLRDR     READER
           5. EXECUTE COMMAND            90. SIGNOFF    (*NOLIST *LIST)
           6. SBMJOB  (JOB),(JOBD),(CMD)
         OPTION: 5   PARMS: QBATCH
         MSG OR CMD: DSPJOB JOB(OPR1)

         LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
         CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```

→ [ENTER]

AT THE "SELECT ONE OF THE FOLLOWING" DISPLAY, NOTICE
THE FOLLOWING ITEMS ON THE VARIOUS DISPLAYS. SELECT
OPTION 1.

→ [ENTER] √ JOB STATUS ATTRIBUTES DISPLAY
√ (JOB IS ON THE OUTQ)

→ [ENTER] √ JOB DEFINITION ATTRIBUTES DISPLAY
√ (OUTPUT WILL BE TO QPRINT)

→ [ENTER] √ JOB EXECUTION ATTRIBUTES DISPLAY
√ (THE JOB IS NOT ACTIVE)

→ [ENTER] √ JOB PROGRAM STACK DISPLAY
√ (THE JOB IS NOT ACTIVE)

→ [ENTER]

Step 31

√ (OPR1 CONTAINS DSPLIB COMMAND — ITS FILE NAME IS
QPDSPLIB, IT'S IN QPRINT OUTPUT QUEUE AND IT IS READY
TO BE PRINTED)

√√ (DISPLAY THE CONTENTS OF SPOOL FILE QPDSPLIB)

```
10/02/81 10:50:59 JOB- OPR1       USER- QPGMR       NBR- OOXXXX
    FILE NAME  NBR   OUTQ         LIBRARY     PTY RCD/PAG  STATUS
 1 QPDSPLIB   0001  QPRINT        QGPL         6      3P   RDY
 _ QPJOBLOG   0002  QPRINT2       QGPL         6      1P   RDY




 1-DSPSPLF   2-DSPSPLFA   4-HLDSPLF   6-RLSSPLF   9-CNLSPLF
```

[ENTER]

√ (NOTE: THIS DISPLAY IS WHAT SHOULD BE PRINTED)
√ (WHY HASN'T IT ALREADY BEEN PRINTED?)

```
   10/15/81        FILE - QPDSPLIB    NBR - 0001  RECORD:      1
 ROLL:   0
  10/15/81   8:48:43                             DISPLAY LIBR
  LIBRARY- QGPL          TYPE- TEST
    OBJECT      TYPE      ATTR        FREED      SIZE   TEXT
      .
      .
      .
    CBLFMT      *PGM      SEU          NO        10240  CBLFMT
      .
      .
      .
      .
      .
 CF3 - FOLD/TRUNCATE                                      +
```

√ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ →YOU CAN USE
ROLL ↑, ↓ KEYS
TO SEE THE
MANY OBJECTS
IN THE GENERAL
√ (WHEN YOU'RE THROUGH VIEWING—) PURPOSE LIBRARY

→ ENTER

√ (YOU ARE RETURNED HERE SO YOU CAN EXAMINE THE
OTHER OUTPUT FILES ASSOCIATED WITH THIS JOB)

```
09/04/81 17:24:06 JOB- OPR1       USER- QPGMR      NBR- XXXXXX
    FILE NAME   NBR   OUTQ       LIBRARY   PTY RCD/PAG  STATUS
_   QPDSPLIB   0001  QPRINT      QGPL        6    3P     RDY
_   QPJOBLOG   0002  QPRINT2     QGPL        6    1P     RDY




    1-DSPSPLF   2-DSPSPLFA   4-HLDSPLF   6-RLSSPLF   9-CNLSPLF
```

➝ |ENTER| (TWICE)

Step 32

√√ (ENTER THE COMMAND TO DISPLAY <u>ALL</u> JOB QUEUES)

```
                    SYSTEM OPERATOR MENU
SELECT ONE OF THE FOLLOWING:
  1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
  2. DSPOUTQ (OUTQ)             8. CNLWTR     WRITER
  3. SNDMSG  TOMSGQ,(TYPE),MSG  9. STRDKTRDR  DEVICE,LABEL
  4. CALL    PROGRAM           10. CNLRDR     READER
  5. EXECUTE COMMAND           90. SIGNOFF    (*NOLIST *LIST)
  6. SBMJOB  (JOB),(JOBD),(CMD)
OPTION: 1   PARMS:            (BLANK THE PARAMETER LINE)
MSG OR CMD: DSPJOB JOB(OPR1)

LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```

➝ |ENTER|

√ **(THERE ARE 2 JOBS IN QBATCH JOBQ — THEY WILL NOT BE PROCESSED UNTIL THE QBATCH SUBSYSTEM IS STARTED)**

```
10/02/81  10:54:31        JOB QUEUES
   QUEUE NAME   LIBRARY     JOBS   SUBSYSTEM   STATUS
   QBATCH       QGPL          2    QBATCH
   QINTER       QGPL          0
   QPGMR        QGPL          0
   QSPL         QGPL          0    QSPL
   QCTL         QSYS          0    QCTL




   1-DSPJOBQ   4-HLDJOBQ   6-RLSJOBQ           CF5-REDISPLAY
```

→ | ENTER |

Step 33

√√ **(ENTER THE COMMAND TO DISPLAY THE JOBS NOW IN THE QBATCH JOBQ)**

```
                    SYSTEM OPERATOR MENU
SELECT ONE OF THE FOLLOWING:
   1. DSPJOBQ  (JOBQ)              7. STRPRTWTR   DEVICE,OUTQ
   2. DSPOUTQ  (OUTQ)              8. CNLWTR      WRITER
   3. SNDMSG   TOMSGQ,(TYPE),MSG   9. STRDKTRDR   DEVICE,LABEL
   4. CALL     PROGRAM            10. CNLRDR      READER
   5. EXECUTE  COMMAND            90. SIGNOFF     (*NOLIST *LIST)
   6. SBMJOB   (JOB),(JOBD),(CMD)
OPTION: 1    PARMS: QBATCH
MSG OR CMD: DSPJOB JOB(OPR1)

LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```

→ | ENTER |

√ (OUR 2 JOBS ARE IN QBATCH JOBQ. THEIR <u>EXECUTION</u>
PRIORITIES ARE STILL 3 AND 8.)

```
09/04/81 17:31:27  JOBQ - QBATCH     LIB - QGPL       SBS
  JOB NAME     USER          NBR       PTY    STATUS
_ OPR2         QPGMR         000XXX      3     HELD
_ OPR3         QPGMR         000XXX      8     HELD




  1-DSPJOB    4-HLDJOB    6-RLSJOB    9-CNLJOB     CF5-REDISPLAY
```

√ (OPR1 IS GONE — WAS RELEASED IN STEP 27)

(OPR4 IS GONE — WAS CANCELLED IN STEP 23)

Step 34

√√ **(RELEASE JOB OPR2 FROM THE QBATCH JOBQ)**

→ | 6 |

√

```
10/02/81 10:57:48  JOBQ - QBATCH     LIB - QGPL         SBS
   JOB NAME    USER       NBR      PTY    STATUS
6  OPR2        QPGMR      XXXXXX    3     HELD
_  OPR3        QPGMR      XXXXXX    8     HELD




                                                                              

   1-DSPJOB    4-HLDJOB    6-RLSJOB    9-CNLJOB    CF5-REDISPLAY
```

→ | ENTER |

√√ (JOB OPR2 NOW BEING PROCESSED BY THE QBATCH
SUBSYSTEM)

```
10/02/81 10:59:07  JOBQ - QBATCH     LIB - QGPL      SBS
  JOB NAME    USER        NBR      PTY    STATUS
_ OPR3       QPGMR       XXXXXX     8     HELD




















  1-DSPJOB    4-HLDJOB    6-RLSJOB    9-CNLJOB    CF5-REDISPLAY
```

Step 35

√√ (RELEASE JOB OPR3)

→ 6

```
10/02/81 10:59:07  JOBQ - QBATCH     LIB - QGPL      SBS
  JOB NAME    USER        NBR      PTY    STATUS
6 OPR3       QPGMR       XXXXXX     8     HELD




















  1-DSPJOB    4-HLDJOB    6-RLSJOB    9-CNLJOB    CF5-REDISPLAY
```

√

→ ENTER

√ **(DISKETTE WILL LOAD AND UNLOAD — JOB OPR3 READS THE DISKETTE LABEL DATA)**

```
09/04/81 17:36:55  JOBQ - QBATCH      LIB - QGPL      SBS
  JOB NAME    USER        NBR       PTY    STATUS

     (NO JOBS)












CF5-REDISPLAY
```

√

→ ENTER

Step 36

√√ **(DISPLAY ALL SYSTEM OUTPUT QUEUES)**

```
                    SYSTEM OPERATOR MENU
SELECT ONE OF THE FOLLOWING:
   1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
   2. DSPOUTQ (OUTQ)             8. CNLWTR    WRITER
   3. SNDMSG  TOMSGQ,(TYPE),MSG  9. STRDKTRDR DEVICE,LABEL
   4. CALL    PROGRAM           10. CNLRDR    READER
   5. EXECUTE COMMAND           90. SIGNOFF   (*NOLIST *LIST)
   6. SBMJOB  (JOB),(JOBD),(CMD)
OPTION: 2   PARMS: ◄──────(BLANK THE PARAMETER LINE)
MSG OR CMD: DSPJOB JOB(OPR1)

LOG REQUESTS: *YES    CF3-COMMAND ENTRY    CF4-PROMPT (5 ONLY)
CF6-DSPMSG QSYSOPR    CF7-DSPSBS           CF8-DSPSYS
```

→ ENTER

√ (THERE ARE FILES FROM OPR1, OPR2 AND OPR3 IN QPRINT)

√ (THE REMAINING FILES ARE JOBLOGS AND MAY BE IN A DIFFERENT OUTPUT QUEUE IN YOUR SYSTEM)

```
01/09/81  10:04:28          OUTPUT QUEUES
 _QUEUE NAME   LIBRARY     FILES   WRITER      STATUS
 _QDKT         QGPL           0
 _QPRINT       QGPL          XX  ←
 _QPRINTS      QGPL           0
 _QPRINT2      QGPL           0
 _QPUNCH       QGPL           0


 1-DSPOUTQ    4-HLDOUTQ    6-RLSOUTQ
```

√ (THERE ARE <u>NO</u> OUTPUT WRITERS ACTIVE — SO NOTHING WILL BE PRINTED)

→ | ENTER |

Step 37

√√ (ENTER THE COMMAND TO DISPLAY THE FILE NAMES OF THE FILES IN OUTQ QPRINT)

```
                      SYSTEM OPERATOR MENU
       SELECT ONE OF THE FOLLOWING:
          1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
          2. DSPOUTQ (OUTQ)             8. CNLWTR     WRITER
          3. SNDMSG  TOMSGQ,(TYPE),MSG  9. STRDKTRDR  DEVICE,LABEL
          4. CALL    PROGRAM           10. CNLRDR     READER
          5. EXECUTE COMMAND            90. SIGNOFF    (*NOLIST *LIST)
          6. SBMJOB  (JOB),(JOBD),(CMD)
       OPTION: 2    PARMS: QPRINT
       MSG OR CMD: DSPJOB JOB(OPR1)

       LOG REQUESTS: *YES    CF3-COMMAND ENTRY     CF4-PROMPT (5 ONLY)
       CF6-DSPMSG QSYSOPR    CF7-DSPSBS            CF8-DSPSYS
```

→ | ENTER |

√ (ALL FILES ARE READY TO BE PRINTED)
√ (JOB OPR1 WILL PRINT FIRST, OPR2
  SECOND AND OPR3 THIRD)

```
10/30/81 18:34:03   OUTQ - QPRINT      LIB - QGPL
   FILE NAME   NBR  JOB NAME   USER      NBR    PTY RCD/PAG STS
_  QPDSPLIB   0001 OPR1       QPGMR    OOXXXX  6       XP RDY
_  QPRTLIBL   0001 OPR2       QPGMR    OOXXXX  7       1P RDY
_  QPDSPDKT   0001 OPR3       QPGMR    OOXXXX  8       1P RDY




   1-DSPSPLF   2-DSPSPLFA   4-HLDSPLF   6-RLSSPLF   9-CNLSPLF
   CF5-REDISPLAY
```

√   (YOU HAVE THE OPTIONS
    TO DISPLAY CONTENTS,
    HOW IT WILL PRINT,
    HOLD IT,
    RELEASE IT,
    OR ELIMINATE ANY FILE)

→ ENTER

Step 38

√√ **(ENTER A CHGJOB COMMAND THAT WILL MAKE OPR1 PRINT LAST)**

```
                          SYSTEM OPERATOR MENU
          SELECT ONE OF THE FOLLOWING:
            1. DSPJOBQ (JOBQ)                7. STRPRTWTR  DEVICE,OUTQ
            2. DSPOUTQ (OUTQ)                8. CNLWTR     WRITER
            3. SNDMSG  TOMSGQ,(TYPE),MSG     9. STRDKTRDR  DEVICE,LABEL
            4. CALL    PROGRAM              10. CNLRDR     READER
            5. EXECUTE COMMAND              90. SIGNOFF    (*NOLIST *LIST)
            6. SBMJOB  (JOB),(JOBD),(CMD)
          OPTION: 5   PARMS: QPRINT                  _____
          MSG OR CMD: CHGJOB JOB(OPR1) OUTPTY(9)     _____

          LOG REQUESTS: *YES    CF3-COMMAND ENTRY    CF4-PROMPT (5 ONLY)
          CF6-DSPMSG QSYSOPR    CF7-DSPSBS           CF8-DSPSYS
```

ENTER

Step 39

√√ (ENTER A CHGSPLFA COMMAND TO MAKE OPR1 PRINT 2
     COPIES WITH 4 FILE SEPARATORS EACH)

```
                    SYSTEM OPERATOR MENU
     SELECT ONE OF THE FOLLOWING:
       1. DSPJOBQ  (JOBQ)            7. STRPRTWTR  DEVICE,OUTQ
       2. DSPOUTQ  (OUTQ)            8. CNLWTR     WRITER
       3. SNDMSG   TOMSGQ,(TYPE),MSG 9. STRDKTRDR  DEVICE,LABEL
       4. CALL     PROGRAM          10. CNLRDR     READER
       5. EXECUTE  COMMAND          90. SIGNOFF    (*NOLIST *LIST)
       6. SBMJOB   (JOB),(JOBD),(CMD)
     OPTION: 5   PARMS: QPRINT
     MSG OR CMD: CHGSPLFA FILE(QPDSPLIB) JOB(OPR1) COPIES(2) FILESEP
     (4)

     LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
     CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```
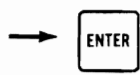
⟶ ENTER

Step 40

√√ (ENTER A COMMAND TO DISPLAY THE OPR1s SPOOL FILE
     ATTRIBUTES — VERIFY ALL CHANGES)

```
                        SYSTEM OPERATOR MENU
            SELECT ONE OF THE FOLLOWING:
              1. DSPJOBQ  (JOBQ)            7. STRPRTWTR  DEVICE,OUTQ
              2. DSPOUTQ  (OUTQ)            8. CNLWTR     WRITER
              3. SNDMSG   TOMSGQ,(TYPE),MSG 9. STRDKTRDR  DEVICE,LABEL
              4. CALL     PROGRAM          10. CNLRDR     READER
              5. EXECUTE COMMAND           90. SIGNOFF    (*NOLIST *LIST)
              6. SBMJOB  (JOB),(JOBD),(CMD)
            OPTION: 5    PARMS: QPRINT
            MSG OR CMD: DSPSPLFA FILE(QPDSPLIB) JOB(OPR1)  (BLANK)
            (BLANK THIS LINE)
            LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
            CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```

ENTER

√ (OUTPUT PRIORITY IS LOWEST: 9)
√ (2 COPIES WILL PRINT)
√ (4 FILE SEPARATORS WILL PRINT)

```
10/02/81  11:14:38  SPOOLED FILE - QPDSPLIB      NBR - 0001  +++
JOB: OPR1        USER: QPGMR         NBR: XXXXXX  OUTPUT RTY  9
OUTPUT QUEUE: QPRINT       LIBRARY: QGPL         STATUS: READY
  DEVICE TYPE:          PRINTER    NUMBER OF COPIES:        2
  OUTPUT SCHEDULE:      *FILEEND   FILE SEPARATORS:         4
  HOLD FILE:           *NO         FORM TYPE:          *STD
  SAVE FILE:           *NO         FORM LENGTH/WIDTH:  66 132
  NUMBER OF PAGES:          3      LINES PER INCH:          6
  RECORD LENGTH:           0       CHARACTERS PER INCH:    10
  FOLD RECORDS:         *NO        OVERFLOW LINE NUMBER:   60
CF3-CHGSPLFA
```

√   (+++ MEANS MORE TO DISPLAY,
         BUT USE ONLY ENTER KEY –
         DON'T SCROLL)

→ [ENTER]

√ (TOP 2 LINES BROUGHT FORWARD FOR YOUR CONVENIENCE)

```
10/02/81  11:15:24  SPOOLED FILE - QPDSPLIB      NBR - 0001
JOB: OPR1        USER: QPGMR         NBR: XXXXXX  OUTPUT PTY: 9
OUTPUT QUEUE: QPRINT       LIBRARY: QGPL         STATUS: READY
  ALIGN FORMS:               *NO
  PRINT IMAGE NAME:          *DEVD
   LIBRARY NAME:
  TRANSLATE TABLE NAME:      *PRTIMG
   LIBRARY NAME:
  REPLACE UNPRINTABLE CHAR:  *NO
    REPLACEMENT CHARACTER:    ' '
CF3-CHGSPLFA
```

→ [ENTER]

Step 41

√√ (CHANGE THE SYSTEM OPERATOR MESSAGE QUEUE TO
BREAK MODE)

```
                      SYSTEM OPERATOR MENU
    SELECT ONE OF THE FOLLOWING:
      1. DSPJOBQ  (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
      2. DSPOUTQ  (OUTQ)              8. CNLWTR     WRITER
      3. SNDMSG   TOMSGQ,(TYPE),MSG   9. STRDKTRDR  DEVICE,LABEL
      4. CALL     PROGRAM            10. CNLRDR     READER
      5. EXECUTE  COMMAND            90. SIGNOFF    (*NOLIST *LIST)
      6. SBMJOB   (JOB),(JOBD),(CMD)
    OPTION: 5    PARMS: QPRINT
    MSG OR CMD: CHGMSGQ QSYSOPR *BREAK

    LOG REQUESTS: *YES    CF3-COMMAND ENTRY    CF4-PROMPT (5 ONLY)
    CF6-DSPMSG QSYSOPR    CF7-DSPSBS           CF8-DSPSYS
```

√ (QSYSOPR NOW IN *BREAK MODE!)

```
      MESSAGE QUEUE- QSYSOPR      DELIVERY: *BREAK    MSGQ SEV: 00
    JOB OPR2.QPGMR.000XXX RELEASED BY USER QSYSOPR.
    JOB OPR3.QPGMR.000XXX RELEASED BY USER QSYSOPR.
    JOB OPR1.QPGMR.000XXX CHANGED BY QSYSOPR.

















    CF6 - REMOVE A MESSAGE    CF7 - DISPLAY ALL    CF8 - REMOVE ALL
```

CF8

Step 42

√√ (START A SPOOL PRINT WRITER TO PRINT ALL FILES IN
THE OUTPUT QUEUE "QPRINT" ONTO THE SYSTEM
PRINTER)

```
                        SYSTEM OPERATOR MENU
        SELECT ONE OF THE FOLLOWING:
          1. DSPJOBQ (JOBQ)                   7. STRPRTWTR  DEVICE,OUTQ
          2. DSPOUTQ (OUTQ)                   8. CNLWTR     WRITER
          3. SNDMSG  TOMSGQ,(TYPE),MSG        9. STRDKTRDR  DEVICE,LABEL
          4. CALL    PROGRAM                 10. CNLRDR     READER
          5. EXECUTE COMMAND                 90. SIGNOFF    (*NOLIST *LIST)
          6. SBMJOB  (JOB),(JOBD),(CMD)
        OPTION: 7   PARMS: QSYSPRT             QPRINT
        MSG OR CMD: CHGMSGQ QSYSOPR *BREAK

        LOG REQUESTS: *YES    CF3-COMMAND ENTRY    CF4-PROMPT (5 ONLY)
        CF6-DSPMSG QSYSOPR    CF7-DSPSBS           CF8-DSPSYS
```

→ | ENTER |

√ (-BREAK- MODE)
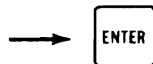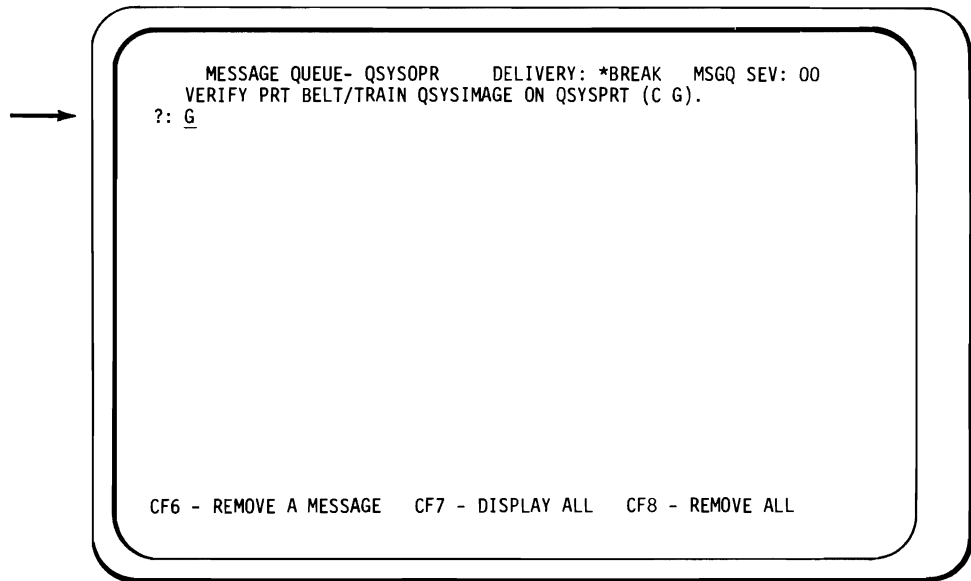
```
           MESSAGE QUEUE- QSYSOPR    DELIVERY: *BREAK   MSGQ SEV: 00
        WRITER QSYSPRT.QSYS.OOOXXX STARTED.


















        CF6 - REMOVE A MESSAGE   CF7 - DISPLAY ALL   CF8 - REMOVE ALL
```
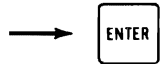
→ | ENTER |

Step 43

√√ (USE THE PRINT BELT THAT IS PRESENTLY INSTALLED ON
THE PRINTER)

```
   MESSAGE QUEUE- QSYSOPR     DELIVERY: *BREAK   MSGQ SEV: 00
   VERIFY PRT BELT/TRAIN QSYSIMAGE ON QSYSPRT (C G).
?: G




   CF6 - REMOVE A MESSAGE   CF7 - DISPLAY ALL   CF8 - REMOVE ALL
```

ENTER

Step 44

√√ (READY THE PRINTER)

```
   MESSAGE QUEUE- QSYSOPR     DELIVERY: *BREAK   MSGQ SEV: OO
 PRESS READY OR START ON DEVICE QSYSPRT UNIT 5211-0002.

        ↑




 CF6 - REMOVE A MESSAGE   CF7 - DISPLAY ALL   CF8 - REMOVE ALL
```
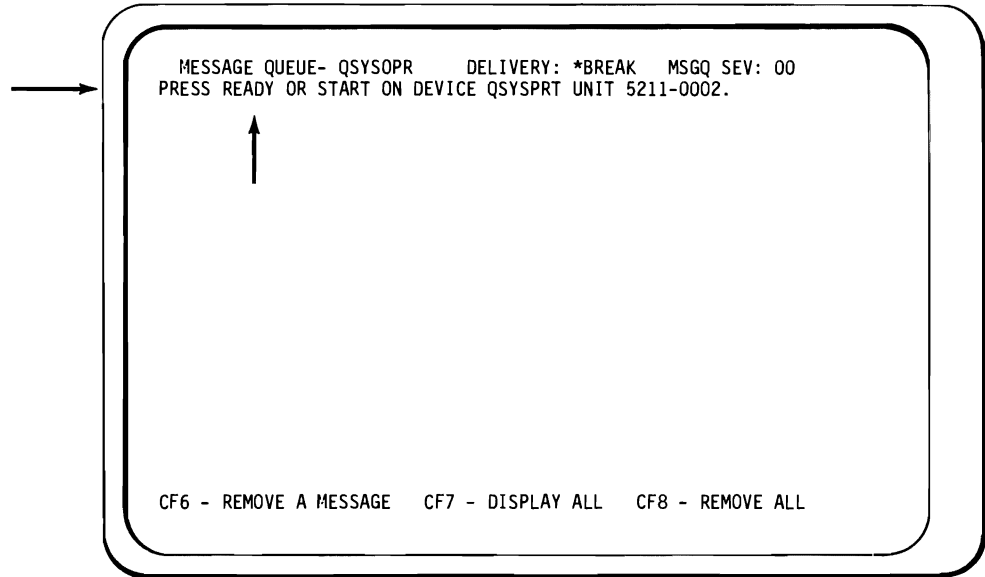
→ | ENTER |

Step 45

√√ (POSITION PRINTER FORMS TO TOP OF A PAGE)

```
        MESSAGE QUEUE- QSYSOPR     DELIVERY: *BREAK   MSGQ SEV: 00
     VERIFY ALIGNMENT ON DEVICE QSYSPRT (I G R N C).
?: G




        CF6 - REMOVE A MESSAGE   CF7 - DISPLAY ALL   CF8 - REMOVE ALL
```

→ [CF8]
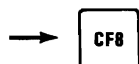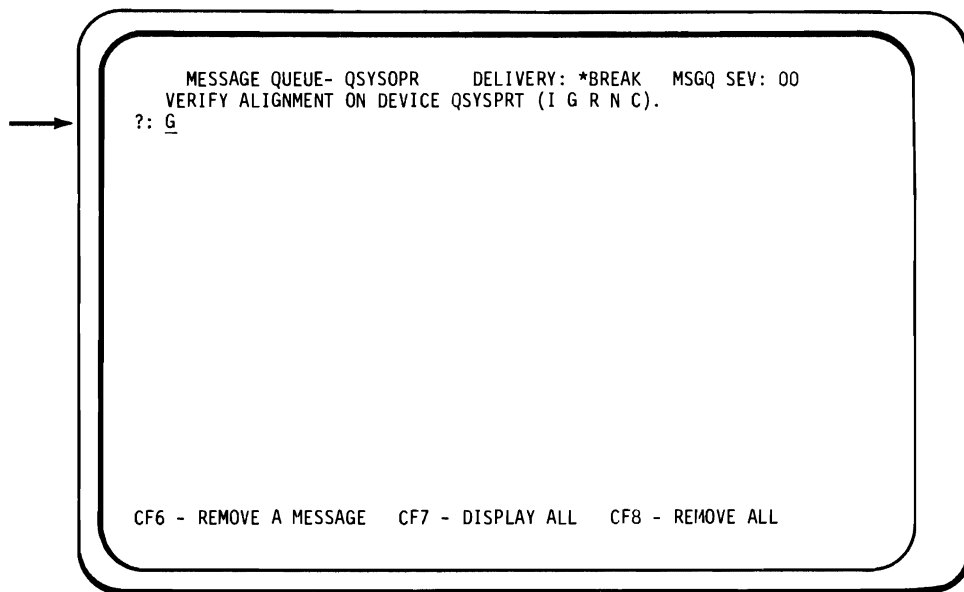
Step 46

√ (AT THIS TIME, PRINTING SHOULD START!)

√√ (ENTER A COMMAND TO PRINT HISTORY LOG OF JOB OPR1)

```
                        SYSTEM OPERATOR MENU
         SELECT ONE OF THE FOLLOWING:
           1. DSPJOBQ (JOBQ)              7. STRPRTWTR  DEVICE,OUTQ
           2. DSPOUTQ (OUTQ)             8. CNLWTR     WRITER
           3. SNDMSG  TOMSGQ,(TYPE),MSG  9. STRDKTRDR  DEVICE,LABEL
           4. CALL    PROGRAM           10. CNLRDR     READER
           5. EXECUTE COMMAND           90. SIGNOFF    (*NOLIST *LIST)
           6. SBMJOB  (JOB),(JOBD),(CMD)
         OPTION: 5     PARMS: QSYSPRT            QPRINT
         MSG OR CMD: DSPLOG JOB(OPR1) OUTPUT(*LIST)

         LOG REQUESTS: *YES    CF3-COMMAND ENTRY   CF4-PROMPT (5 ONLY)
         CF6-DSPMSG QSYSOPR    CF7-DSPSBS          CF8-DSPSYS
```

→ | ENTER |

Step 47

→ (RETRIEVE YOUR PRINTOUTS FROM PRINTER)

√√ (COMPARE YOUR PRINTOUTS TO OURS – NEXT PAGE →
THE CONTENTS OF THE REPORTS MAY VARY, BUT THE
FORMAT SHOULD BE THE SAME.)

√√ (PRINTING MUST BE COMPLETED BEFORE YOU GO TO
STEP 48. IF NOT, YOU MAY LOSE INFORMATION.)

```
*.JOB NAME..OPR2
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:32
PROGRAMMER AND BATCH USER
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
*.JOB NAME..OPR2
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:32
*.FILE NAME.QPRTLIBL
*.FILE NBR..0001
*.COPY NBR..01


- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -



     05/27/80  16:03:13    USER LIBRARY LIST DISPLAY
       POSITION        LIBRARY NAME
          1            QGPL
          2            QIDU
          3            QRPG
          4            QTEMP
          5            QCBL
```

```
*.JOB NAME..OPR3
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:35
PROGRAMMER AND BATCH USER
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
*.JOB NAME..OPR3
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:35
*.FILE NAME.QPDSPDKT
*.FILE NBR..0001
*.COPY NBR..01
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
   10/02/81              DISKETTE VOLUME DISPLAY

   LOCATION-  S1        VOLUME-    OPR     OWNER ID-   EDUCATION
   TYPE-      *2        CODE-      *EBCDIC
   SPACE AVAILABLE IS-  03836 BLOCKS   128 BYTES PER BLOCK

                       RECORD BLOCK   RECORD   BLOCK    FILE MVOL  MVOL  WRITE   EXCH   CREATE    EXPIRE
   DATA FILE LABEL     FORMAT ATTR    LENGTH   LENGTH   LENGTH IND  SEQ  PROTECT TYPE   DATE      DATE

   MASTER               F              80       80       12         01                  08/14/80  08/15/80
```

Expected printouts (1 of 4)

```
*.JOB NAME..OPR1
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:31
PROGRAMMER AND BATCH USER
- - - - - - - - - - - - - -
*.JOB NAME.. OPR1
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:31
*.FILE NAME.QPDSPLIB
*.FILE NBR..0001
*.COPY NBR..01
- - - - - - - - - - - - - -
*.JOB NAME..OPR1
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:31
*.FILE NAME.QPDSPLIB
*.FILE NBR..0001
*.COPY NBR..01
- - - - - - - - - - - - - -
*.JOB NAME..OPR1
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:31
*.FILE NAME.QPDSPLIB
*.FILE NBR..0001
*.COPY NBR..01
- - - - - - - - - - - - - -
*.JOB NAME..OPR1
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:31
*.FILE NAME.QPDSPLIB
*.FILE NBR..0001
*.COPY NBR..01
```

Expected printouts (2 of 4)

```
05/27/80   10:01:16   LIBRARY DISPLAY
LIBRARY: QGPL
  OBJECT NAME   OBJ TYPE
  SPLBLD        *PGM
  TESTIT        *PGM
  QBATCH        *JOBQ
  QINTER        *JOBQ
  QPGMR         *JOBQ
  QSPL          *JOBQ
  MORRIS        *OUTQ
  QDKT          *OUTQ
  QPRINT        *OUTQ
  QPRINTS       *OUTQ
  QPRINT2       *OUTQ
  QPUNCH        *OUTQ
  QCARD96       *FILE
  QCLSRC        *FILE
  QCMDSRC       *FILE
  QCRDSRC       *FILE
  QDDSSRC       *FILE
  QDKT          *FILE
  QDKTSRC       *FILE
  QIMGSRC       *FILE
  QPRINT        *FILE
  QPRINTS       *FILE
  QPRINT2       *FILE
  QPUNCH        *FILE
  QTAPE         *FILE
  QTAPSRC       *FILE
  QTBLSRC       *FILE
  QBATCH        *JOBD
  QINTER        *JOBD
  QPGMR         *JOBD
  QSPLCRDR      *JOBD
  QSPLCRDW      *JOBD
  QSPLDBR       *JOBD
  QSPLDKTR      *JOBD
  QSPLDKTW      *JOBD
  QSPLPRTW      *JOBD
  QBATCH        *CLS
  QINTER        *CLS
  QPGMR         *CLS
  QSPL          *CLS
  QSPL2         *CLS
  QSYSIMAGE     *TBL
  QSYSIMAGE     *PRTIMG
  QBATCH        *SBSD
  QINTER        *SBSD
  QPGMR         *SBSD
  QSPL          *SBSD
```

```
*.JOB NAME..OPR1
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:31
*.FILE NAME.QPDSPLIB
*.FILE NBR..0001
*.COPY NBR..02
- - - - - - - - - - - -
*.JOB NAME..OPR1
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:31
*.FILE NAME.QPDSPLIB
*.FILE NBR..0001
*.COPY NBR..02
- - - - - - - - - - - -
*.JOB NAME..OPR1
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:31
*.FILE NAME.QPDSPLIB
*.FILE NBR..0001
*.COPY NBR..02
- - - - - - - - - - - -
*.JOB NAME..OPR1
*.USER NAME.QPGMR
*.JOB NBR...000XXX
*.DATE......05/27/80
*.TIME......15:54:31
*.FILE NAME.QPDSPLIB
*.FILE NBR..0001
*.COPY NBR..02
```

Expected printouts (3 of 4)

```
-------------------------------------------
05/27/80  16:03:12      LIBRARY DISPLAY
LIBRARY: QGPL
  OBJECT NAME    OBJ TYPE
  SPLBLD         *PGM
  TESTIT         *PGM
  QBATCH         *JOBQ
  QINTER         *JOBQ
  QPGMR          *JOBQ
  QSPL           *JOBQ
  MORRIS         *OUTQ
  QDKT           *OUTQ
  QPRINT         *OUTQ
  QPRINTS        *OUTQ
  QPRINT2        *OUTQ
  QPUNCH         *OUTQ
  QCARD96        *FILE
  QCLSRC         *FILE
  QCMDSRC        *FILE
  QCRDSRC        *FILE
  QDDSSRC        *FILE
  QDKT           *FILE
  QDKTSRC        *FILE
  QIMGSRC        *FILE
  QPRINT         *FILE
  QPRINTS        *FILE
  QPRINT2        *FILE
  QPUNCH         *FILE
  QTAPE          *FILE
  QTAPSRC        *FILE
  QTBLSRC        *FILE
  QBATCH         *JOBD
  QINTER         *JOBD
  QPGMR          *JOBD
  QSPLCRDR       *JOBD
  QSPLCRDW       *JOBD
  QSPLDBR        *JOBD
  QSPLDKTR       *JOBD
  QSPLDKTW       *JOBD
  QSPLPRTW       *JOBD
  QBATCH         *CLS
  QINTER         *CLS
  QPGMR          *CLS
  QSPL           *CLS
  QSPL2          *CLS
  QSYSIMAGE      *TBL
  QSYSIMAGE      *PRTIMG
  QBATCH         *SBSD
  QINTER         *SBSD
  QPGMR          *SBSD
  QSPL           *SBSD
-------------------------------------------
```

√ (THE PRINTOUT FROM STEP 46
DSPLOG JOB(OPR1) OUTPUT(*LIST))

```
*.JOB NAME..QCONSOLE
*.USER NAME.QSYSOPR
*.JOB NBR...OOXXXX
*.DATE......10/02/81
*.TIME......11:34:02
SYSTEM OPERATOR


                                       SYSTEM LOG - QHST

MSGID     SEV MSG TYPE

CPF1124  00            JOB OPR1.QPGMR.OOXXXX STARTED 10/02/81 10:30:54.
                  OPR1      QPGMR      OOXXXX                10/02/81 10:30:56
CPF1164  00  COMPLETION   JOB OPR1.QPGMR.OOXXXX COMPLETED 10/02/81 10:31:27; 12 SECONDS CPU TIME, TERMINATION CODE 0.
                  OPR1      QPGMR      OOXXXX                10/02/81 10:31:27
```
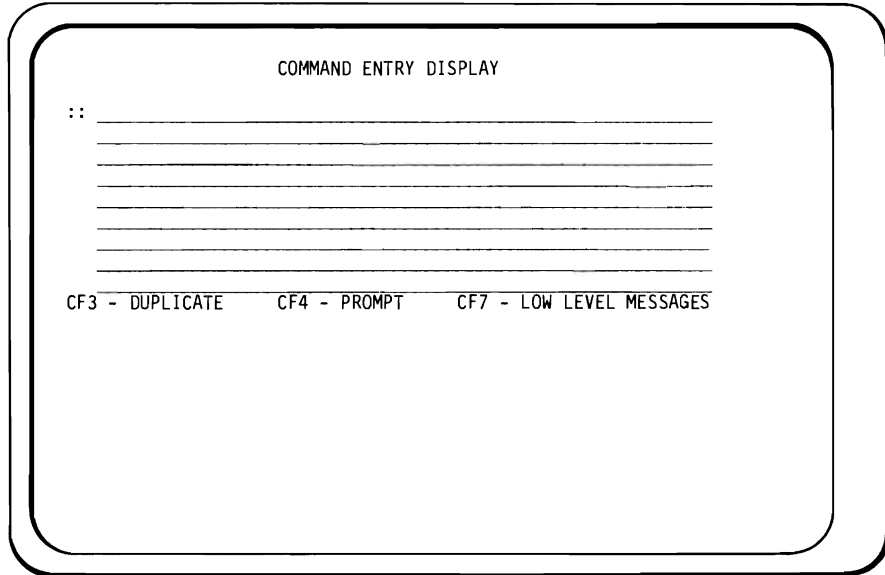
Expected printouts (4 of 4)

Step 48

√√ (TO END THE EXERCISE, USE CF3 TO CHANGE TO THE
COMMAND ENTRY DISPLAY)

```
                        COMMAND ENTRY DISPLAY
  :: _____
     _____
     _____
     _____
     _____
     _____
     _____
     _____
     _____
  CF3 - DUPLICATE     CF4 - PROMPT    CF7 - LOW LEVEL MESSAGES
```

√√ (ENTER THE FOLLOWING COMMANDS NOW. PRESS ENTER
AFTER ENTERING EACH COMMAND.)

→ CNLWTR   WTR(QSYSPRT)

→ TRMSBS   SBS(QBATCH)

→ TRMSBS   SBS(QSPL)

→ CLRJOBQ   JOBQ(QSPL)

→ CLRJOBQ   JOBQ(QBATCH)

→ CLROUTQ   OUTQ(QPRINT)

→ PWRDWNSYS *IMMED

→ (REMOVE AND STORE YOUR DISKETTE)

√√ SYSTEM OPERATOR LAB COMPLETE

Now that you have successfully completed this System Operator Train-
ing course, you are ready to begin acting as System Operator in your
own firm. Remember, though it is a big job, there is help available—
this book, other operator guides and most important, your advisor and
your supervisor. Congratulations and good luck in your new career!

As the advisor for this course, you will be responsible for:

1. Providing the following reference manuals for student use:

   System/38 Operator's Guide — SC21-7735

   System/38 Problem Determination Guide — SC21-7876

   System/38 CL Reference Manual — SC21-7731

   Appropriate Device Operator Guides:

   3203 Printer — GA33-1529

   3262 Printer — GA33-1530

   5211 Printer — GA24-3658

   5224 Printer — GA34-0092

   5225 Printer — GA34-0054

   5256 Printer — GA21-9260

   5424 Multi-function Card Unit — GA21-9167

   3410/3411 Tape Unit — G232-0004

   5251 Display Station — Models 1 and 11 and
   5252 Dual Display Station — GA21-9248

   5251 Display Station — Models 2 and 12 — GA21-9323

2. Becoming familiar with the contents of the student workbook. This material discusses the System/38 as shipped from IBM. If you have made any changes to the shipped system, you are responsible for communicating these changes to the student.

3. Deciding the experience level of the student. A student with past experience as a system operator on some other type of computer probably has sufficient knowledge to take this course. A student without prior operating or data processing experience should either complete *Introduction To Computer Systems* (GR30-0308), or attend the Guided Learning Center or classroom Computer Concepts course. Any one of these courses will acquaint the student with basic data processing concepts and terminology.

4. Being available on an "as needed" basis for assistance if problems occur or if questions arise.

5. Being available to guide and assist the students as they become the system operators on a daily basis. This course will give the students the *basic* knowledge necessary to perform the function of system operator. You, however, must provide the detailed information needed to perform this function on your System/38 at your place of business—the runbook, the daily schedule, etc. As with any new undertaking, the first 4 to 6 weeks of being a system operator will be a learning experience for the student. It is important that you be available to answer any questions arising as a result of new situations and to guide the student through the correct steps to perform in these situations.

6. Scheduling the machine time for the student to complete the hands-on exercises. The estimated time required for the exercises is 1 to 1-1/2 hours. The exercises require a dedicated system. While the student is running the exercises, the output queue QPRINT may have to be changed to allow the operator to display the data in the files (CHGOUTQ OUTQ(QPRINT) DSPDATA(*YES)).

7. Assuring that the System/38 is in the proper condition when the student runs the exercises — that the prior termination was normal and that there are no jobs or files in the queues.

8. Being able to recreate the diskette if the need arises; either copy the diskette to another diskette, or key the following jobs onto a diskette that has the VOLID of OPR and the file label of MASTER.

```
 1.00   //JOB       JOB(OPR1) JOBPTY(6) OUTPTY(6) HOLD(*YES)
 2.00   DSPLIB      LIB(QGPL) OUTPUT(*LIST)
 3.00   //ENDJOB
 4.00   //JOB       JOB(OPR2) JOBPTY(7) OUTPTY(7) HOLD(*YES)
 5.00   DSPLIBL     OUTPUT(*LIST)
 6.00   //ENDJOB
 7.00   //JOB       JOB(OPR3) JOBPTY(8) OUTPTY(8) HOLD(*YES)
 8.00   DSPDKT      LOC(*S1) OUTPUT(*LIST)
 9.00   //ENDJOB
10.00   //JOB       JOB(OPR4) JOBPTY(9) OUTPTY(9) HOLD(*YES)
11.00   DSPDEVCFG   OUTPUT(*LIST)
12.00   //ENDJOB
```

READER'S COMMENT FORM

IBM System/38
System Operator Training
Student Workbook and Advisor's Guide

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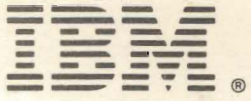
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