Variable (1A)

Young Won Lim
7/8/11

Please send corrections (or suggestions) to youngwlim@hotmail.com.

This document was produced by using OpenOffice.

Local Variable

```
{
    int a;
    {
        int b;
        {
            int c;

        }
    }



    {
        int b;




    }
}
```

*The variable **a** is **local** to this area*

*The variable **b** is **local** to this area*

*The variable **c** is **local** to this area*

different variables

*The variable **b** is **local** to this area*

Scope
Life Time

Global Variable

```
src.c

int g;

int psum (int n)
{



}



int main (void)
{
    int S1;

    S1 = psum ( g );
    printf("S1 = %d \n", S);

    return 0;
}
```
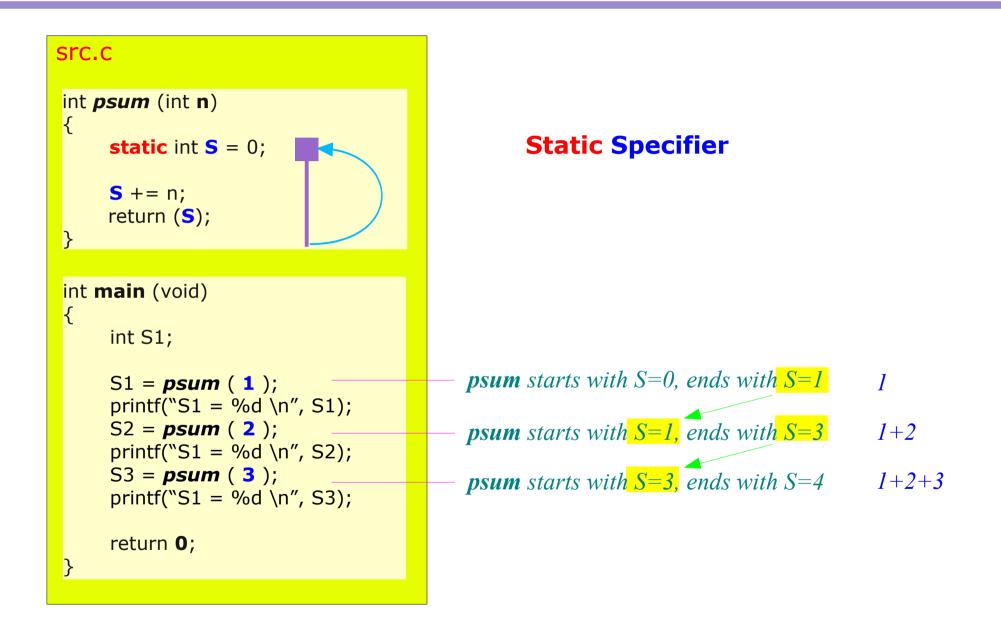
*The variable **g** is not **local** to any block*
It is defined outside of the main function
*It is therefore **global**.*

Static Variable

```
src.c

int psum (int n)
{
    static int S = 0;

    S += n;
    return (S);
}

int main (void)
{
    int S1;

    S1 = psum ( 1 );
    printf("S1 = %d \n", S1);
    S2 = psum ( 2 );
    printf("S1 = %d \n", S2);
    S3 = psum ( 3 );
    printf("S1 = %d \n", S3);

    return 0;
}
```

Static Specifier

psum starts with S=0, ends with S=1   *1*

psum starts with S=1, ends with S=3   *1+2*

psum starts with S=3, ends with S=4   *1+2+3*

References

[1] Essential C, input_nck Parlante
[2] Efficient C Programming, Mark A. Weiss
[3] C A Reference Manual, Samuel P. Harbison & Guy L. Steele Jr.
[4] C Language Express, I. K. Chun