

# Scope (1A)

---

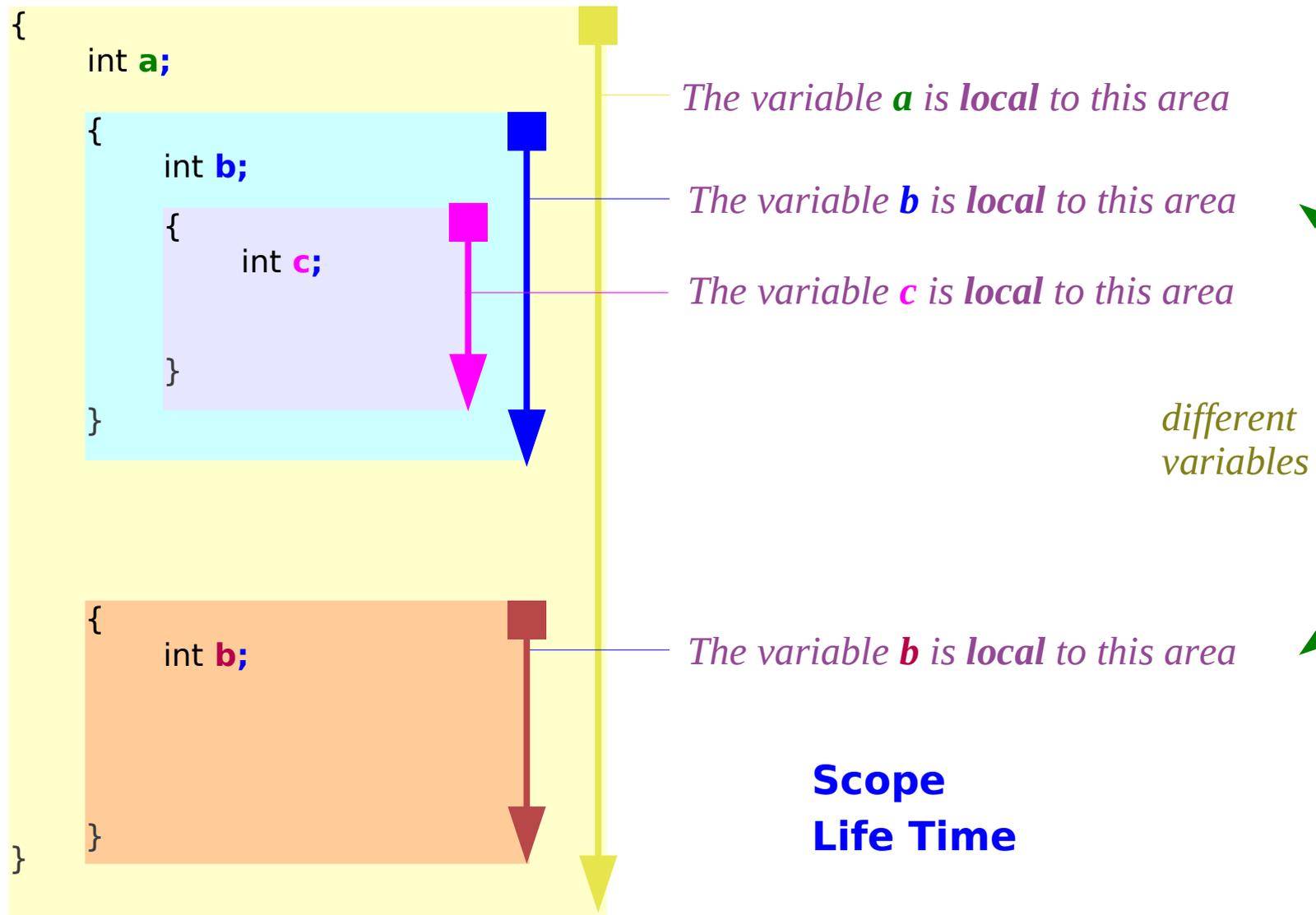
Copyright (c) 2010, 2011 Young W. Lim.

Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.2 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License".

Please send corrections (or suggestions) to [youngwlim@hotmail.com](mailto:youngwlim@hotmail.com).

This document was produced by using OpenOffice.

# Local Variable



# Global Variable

src.c

```
int g;
```

```
int psum (int n)  
{  
  
}
```

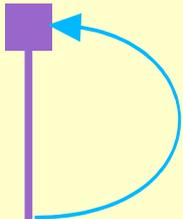
```
int main (void)  
{  
    int S1;  
  
    S1 = psum ( g );  
    printf("S1 = %d \n", S);  
  
    return 0;  
}
```

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);

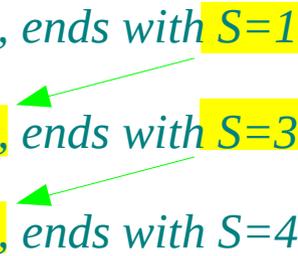
    return 0;
}
```

## 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, Nick 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