

Lab #05

Date: 2014/03/19

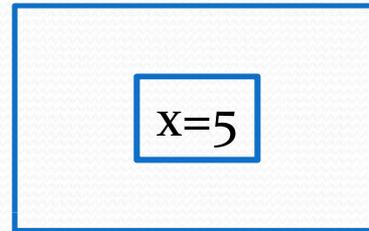
Slide

- <http://goo.gl/P5x3EE>

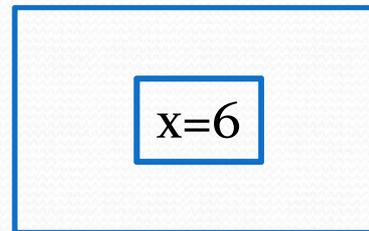
Call by Value

- ```
int main() {
 int x = 5;
 add(x);
 cout << x;
}
```
- ```
void add(int x) {  
    x++;  
}
```

main



add



Function Overloading

```
int add(int x){
    x++;
    return x;
}

int add(int x, int y) {
    x++;
    y+=x;
    return y;
}
```

```
#include <iostream>
using namespace std;

int add(int x);
int add(int x, int y);

int main() {
    int x = 1, y = 2;
    int z = add(3, y);
    cout << add(y);

    return 0;
}
```

Header and Source

- Open a **project** for including all the files that will be used.

The screenshot shows a C++ IDE with a project named "maxScore". The project contains three files: maxSc_header.h, maxSc_main.cpp, and maxSc_source.cpp. The IDE displays the code for maxSc_main.cpp and maxSc_source.cpp. The code in maxSc_main.cpp includes <iostream> and maxSc_header.h, and uses namespace std. The code in maxSc_source.cpp includes <iostream> and maxSc_header.h. The IDE also shows a message window with linker errors: [Linker error] undefined reference to `inputScore(int*)`, [Linker error] undefined reference to `maxScore(int*)`, and ld returned 1 exit status.

```
maxSc_main.cpp | maxSc_header.h | maxSc_source.cpp |
1 #include <iostream>
2 #include "maxSc_header.h"
3 using namespace std;
4
5 int main () {
6     int score[MAX_S_COUNT] = {0};
7     inputScore (score);
8     cout << maxScore (score);
9
10    system("pause");
11    return 0;
12 }
13
```

專案 類別 除錯/監看

maxScore

- maxSc_header.h
- maxSc_main.cpp
- maxSc_source.cpp

```
maxSc_main.cpp | maxSc_header.h | maxSc_source.cpp |
1 #include <iostream>
2 #include "maxSc_header.h"
3 using namespace std;
4
5 int main () {
6     int score[MAX_S_COUNT] = {0};
7     inputScore (score);
8     cout << maxScore (score);
9
10    system("pause");
11    return 0;
12 }
13
```

編譯器記錄 除錯/監看 搜尋結果 關閉漸

訊息

- [Linker error] undefined reference to `inputScore(int*)`
- [Linker error] undefined reference to `maxScore(int*)`
- ld returned 1 exit status

rand() and srand()

- int rand(void)
- void srand(unsigned seed)

```
srand(time(o));
```

```
int main (){  
    int ranNum=0;  
  
    for(int i=0;i<30;i++){  
        ranNum=rand() %500;  
    }  
    cout<<ranNum<<" ";  
  
    return 0;  
}
```

```
int main (){  
    int ranNum=0;  
  
    srand(1);  
    for(int i=0;i<30;i++){  
        ranNum=rand() %500;  
    }  
    cout<<ranNum<<" ";  
  
    return 0;  
}
```

Lab practice

- Go for Lab14-05