

# Programming Design, Spring 2013

## Homework 01

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To submit your work, please e-mail TWO files to our TAs at r01725007(AT)ntu.edu.tw:

1. Your source file (the .cpp file) for Problem 1.
2. A text file (a .txt file) for Problems 2 and 3.

Name your files by combining your student ID, an underline, and then “hw01” in order. For example, if I took this course with my undergraduate ID, my files should be “B90705023\_hw01.cpp” and “B90705023\_hw01.txt”. Capitalize the first letter of your student ID. NO hard copy and NO late submission. The due time of Homework 1 is 1:00pm, February 25, 2013.

### Problem 1

(80 points) Please write a C++ program according to the following instructions.

#### What should your program do

The program should print out the following in the console mode:

```
*****
* This is <your full name in English>'s homework 1 *
* My student ID is                               *
*           <your student ID>                   *
* I want to say "Hello World!"                  *
*****
```

Note that the size of the rectangle should be set according to your name. For example, if I took this course with my undergraduate student ID, my output should be

```
*****
* This is Ling-Chieh Kung's homework 1 *
* My student ID is                       *
*           b90705023                    *
* I want to say "Hello World!"          *
*****
```

The way you align your output characters should follow the example exactly. Note that the first character of lines 2, 3, and 5 (i.e., “T”, “M”, and “I”) should locate at column 3 (while the left boarder of the rectangle locates at column 1). There should be a white space between the last character of line 2 (i.e., “1”) and the right boarder.

#### What should be in your source file

Your .cpp source file should contain C++ codes that will complete the above task. Moreover, you should write relevant comments for your codes. For Homework 1, at least you need to include the following five lines of comments at the beginning of your source file:

```
/*
  Homework 1
  Name: <your name>
  Student ID: <your student ID>
*/
```

Your name can be typed in English, Chinese, or both. The first letter of your student ID should be a capital letter.

### Grading criteria

- 60% of your grades for this program will be based on the correctness of your output. In other words, the TA will open your submitted .cpp file, press “compile and run”, and check the output on screen. If, for example, there is a compiling error, then you get 0 out of 70.
- 30% of your grades for this program will be based on how you write your program, including the logic and format. For Homework 1, we will particularly focus on the format of your source codes. Please carefully follow the instructions provided in the lecture notes or the textbook.
- 10% of your grades for this program will be based on whether you name your submitted files correctly. If they perfectly follows the instruction given in this homework, you get 10; otherwise, you get 0.

### Problem 2

(10 points) Consider the following C++ program

```
#include <iostream>

int main()
{
    std::cout << "This is a \n";
    std::cout << "book."
    return 0;
}
```

Point out all the errors in this program that may be found by the compiler, if any, or conclude that there is no such kind of error.

### Problem 3

(10 points) Consider the following C++ program

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

int main()
{
    cout << "Hello World! \n";
    return 0;
    cout << "Bye bye Homework 1! \n";
}
```

Point out all the errors in this program that may be found by the compiler, if any, or conclude that there is no such kind of error.