Programming Design, Spring 2013
Homework 06

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To submit your work, please upload the following two files to the online grading system PDOGS at http://stella.im.ntu.edu.tw/online-judgement/.

1. A PDF file that describes a C++ programming assignment.

2. Your source file (the .cpp file) for the problem you design.

Note that this is a team work and only ONE student in a team needs to upload the homework. In the PDF file, please clearly indicate all the team members' name and student ID. As usual, NO hard copy and NO late submission. The due time of this homework is **_1:00pm, April 1, 2013_**.[1]

Problem 1

(100 points) Please design a C++ programming assignment and write a C++ program for it according to the following instructions.

What kind of problems are we expecting?

Please treat yourself as an instructor of this course. At this moment, your students have learned some C++ basic stuffs, and your goal is to design a problem that requires them to use all the techniques they have learned. In particular, to solve the problem, a student should combine her/his knowledge in selection, repetition, arrays, and functions. It will certainly be better if the program can be written with some other things covered in this course so far.

The difficulty of your problem should be moderately high, i.e., in average students in this course will spend around ten to fifteen hours to write a correct program. Your team will also get better grades if the problem is creative and interesting: Creative so that it cannot be found in any website or programming textbook and interesting so that people who see it will want to write a program to solve it. As always, the input and output format must be precisely defined.

After you design your problem, you need to provide the solution as a C++ source file. Your program needs not to be implemented in the best way, but at least it must be correct and good enough. You do not need to provide testing data for the program.

Grading criteria

- 70% of your grades will be based on the problem you design. The grading criteria include the knowledge required to write the program (30%), difficulty (20%), creativity (10%), and how interesting the problem is (10%).

- 30% of your grades will be based on the program. It must be correct, easy to understand, and written in a good format with appropriate comments.

- All the team members will get the same grades.

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[1]Though April 1 is the April Fool's Day, the due time is 100% strict.