

Advanced Programming Week 3 Prac Test – 2016 Semester 2 – Thursday PM

This test is worth 5% of your final mark.

It is to be completed during your lab class -- you have 1.5 hours.

You will be marked by showing a demonstration of your program to your tutor. Implement as much of the functionality as you can. **You will get part marks if you implement some but not all.**

Also submit your solution via the link on Blackboard under Assessments.

A Simple Academic Management System

Following is the design of the system with descriptions of each mentioned class. Your task is to write or to complete the classes using the information given.

(a) Program class

Each program includes a program code (eg. "BP098"), number of enrolled students (e.g 54 students) and **cost per student** to run the program (e.g. \$2000). These properties can be retrieved by accessors. A method *totalRunningCost()* returns the total amount to run the program (no. of students * cost per student).

(b) SpecialistProgram class

A SpecialistProgram is a special type of Program that involves extra set up cost: a flat fee of \$12,000 (on top of the per-student cost).

(c) Test class

This is a driver class to test the application.

Write a simple *Test* class, containing a *main()* which does the following:

1. Creates an array with the following Programs:
 - a. `list[0] = new Program("BP162", 20, 1000);`
 - b. `list[1] = new SpecialistProgram("MC062", 100, 1000);`
2. Prints out the cost-per-program for each of the programs in the array.

Your output should look something like the following:

```
Cost for BP162: $20000           // 20 * 1000
Cost for MC062: $132000         // (100 * 1200) + 12000
```

YOU MAY ASK FOR HELP if you are stuck BUT you will lose 1 mark each time. For example, you need to declare the array. If you just cannot do, ask the tutor for help---you will lose 1 mark out of 5 but at least you will be able to continue.