IS0020 Program Design and Software Tools
HW6
Due: April 19, 2005
(Total Points 100)

As discussed in class, here, you will extend HW5 with few more classes and file processing, as follows:

- Introduce following new classes
    1. Student class
        - A Student is a UniversityMember.
        - Allow a student to be registered for upto 5 courses
        - Indicate the level of the student
        You are not required to create a course class

    2. GraduateStudentAssistant class
        - A GraduateStudentAssistant is a Student as well as a SalariedEmployee
        - A graduate can be employed for 20-hours or 10-hours. In the first case, he gets full salary, say, between 12K and 16K, and in the second case, it will be half of that.
        - A GSA has either a teaching or a research assignment and has a Professor as a mentor, which should be indicated.

- File processing
    1. Create a random access file where you will read and write Professor objects. You are not required to create files to handle other Employee objects.
    2. Create a random access file where you will read and write Student objects. You are not required to create files to handle the GraduateStudentAssistant objects.

Note that your program should however demonstrate use of all the objects.

Extra Points upto 50

You will be awarded extra points for appropriate use of the following features:
- New preprocessing features other than what you have already been using (e.g., you have already used #*include* and #*ifdef*)
- Exceptional handling
- Demonstration of the use of STL algorithms.

Indicate where these features have been used. Awarding of extra points will be strict, so you should use your best efforts here.