MKT4142 Project

Implement a Student Registry program to keep undergraduate students data for Departments and Faculties. It will have no GUI but will use command line in order to run. class *Student* will inherit from class *Department* and optionally class *Contact*. class *Faculty* will be inherited by class *Department*.

Student data should include ID, registration date, name, email, phone, age, gender, courses, grades. Those data must be written into a binary file. Each student will have its own file and filename must be ID of the student. Files are residential and will not be deleted unless user do so in the program.

Number of students or their data will be given by user, there is no limit. Therefore, you must use dynamic memory allocation.

Users must be able to display/add/delete/update data in the binary file. Binary file hides data and uses less disk space. Use threads to read/write student files in order not to block the program. Program must be able to accept new commands during file read/write. Make sure threads will not stop abruptly in case main function exits.

Do not use C functions as printf, malloc, free, fopen, etc. Use C++ version of them as cout, new, delete, open, etc.

Do not use special libraries or frameworks, only STL is allowed.

Bonus: Usage of Exception Handling(%5) and Multiple Inheritance(%5)

Deadline: Final Exam

Deliverables:

- Source Code - %70 (only the code you wrote, do not include libraries or frameworks)
    - Object Oriented Design
    - Effective Memory Usage
    - Readability, Extensibility and Maintainability
    - No Runtime or Compile Errors
    - Must properly compile with g++ (GNU C++ Compiler)
- Software Design Document - %15 (including Class/Object methods and fields, thread mechanism, memory management)
- Demo Video - %10 (must be less than 2 minutes and 5MB)
- Readme.txt - %5 (simple readme file describing the steps for compilation and running)