**Grade Report Generator**

README

**Introduction**

A system that stores student grade information for a university. The system will have 5 choices that perform different tasks to user.

\*\*\* Report Generator \*\*\*

I Import students from file (should read in a file and populate the list)

L Show student roster (output a list of students with their first name , last name and course name)

E Export a grade report (accept a string parameter as a filename and export a detailed report of all the student in everyclass)

S Sort Student List (should sort the list of students alphabetically based on their last name. If the last names match, they should be sorted on the basis of their first name.)

M Show this Menu (Show this menu again to user)

Q Quit Program (Terminate the program)

**Input File Format**

The input file will contain an arbitrary length list of student records. Each record spans across 2 lines. The first line contains the last name, first name for the student. The second line contains their scores in their respective courses in the following format

History -- Attendance, Project, Midterm, Final Exam

Physics – Lab1, Lab2, Lab3, Research Paper, Midterm, Final Exam

Math -- Quiz 1, Quiz 2, Quiz 3, Quiz 4, Quiz 5, Test 1, Test 2, Final Exam

**Grading Final Average for each class**

History Students: The **raw final average** is computed using the weight criteria below.

|  |  |
| --- | --- |
| Attendance | 10% |
| Project | 30% |
| Midterm | 30% |
| Final Exam | 30% |

The **final average** is then computed by curving the raw final average using the formula :

Math Students: The **final average** is computed using the weight criteria below

|  |  |
| --- | --- |
| Quiz (Average out of 5 quizzes)\* | 20% |
| Midterm 1 | 25% |
| Midterm 2 | 25% |
| Final Exam | 30% |

\*The quiz average will be computed by averaging the scores on all 5 quizzes and then multiplied with the quiz weight.

Physics Students: The **final average** is computed using the weight criteria below

|  |  |
| --- | --- |
| Labs (Best 2 out of 3) \* | 20% |
| Research Paper | 25% |
| Midterm | 25% |
| Final Exam | 30% |

\*The lab average will be computed by dropping the lowest score out of 3 labs and taking the average of the other

**Output File Format**

The output file should be generated when the user selects option E. The format should be as follows.

1. You should print the final averages for each student grouped by their courses.
2. For each course and each student, print the student’s

* first name,
* last name,
* final exam score
* final average (rounded up to 2 decimal places).

1. In addition, also print the letter grade based on the following criteria

|  |  |
| --- | --- |
| A | >=90 |
| B | 89.99 - 80 |
| C | 79.99 - 70 |
| D | 69.99 - 60 |
| F | <60 |

1. Finally, at the end of the file, print a distribution of grades i.e. how many students received A’s , B’s etc.