

Final Project
Electrical and Electronics Programming
Grading System Simulator

In this project you will be given two text files which have the scores of students (MID/PROJECT/FINAL/TOTAL) in addition to their names and IDs as follows:

- Math.txt

```
course name : Mathematics
Instructor : Mannan

ID      NAME    MID    PROJECT  FINAL    TOTAL
202001  s1         46      54       67      167
202002  s2         87      93       88      268
202004  s4         26      48       56      130
202006  s6         93      89       90      272
202007  s7         65      75       80      220
202008  s8         58      49       43      150
202010  s10        85      78       76      239
202012  s12        76      85       81      242
202013  s13        54      74       69      197
202014  s14        73      79       84      236
```

- Science.txt

```
course name : Science
Instructor : Saeed

ID      NAME    MID    PROJECT  FINAL    TOTAL
202001  s1         53      47       75      175
202002  s2         79      86       95      260
202003  s3         62      39       64      165
202005  s5         95      75       97      267
202009  s9         78      59       85      222
202010  s10        70      49       38      157
202011  s11        88      84       69      241
202012  s12        89      84       87      260
202013  s13        68      55       75      198
202014  s14        81      76       89      246
```

As you can see, some students are registered for both classes and some students are registered in only one class. The goal of this assignment to make:

1) Portal for Professor:

The Professors can calculate scores, write them to other files, and view the scores.

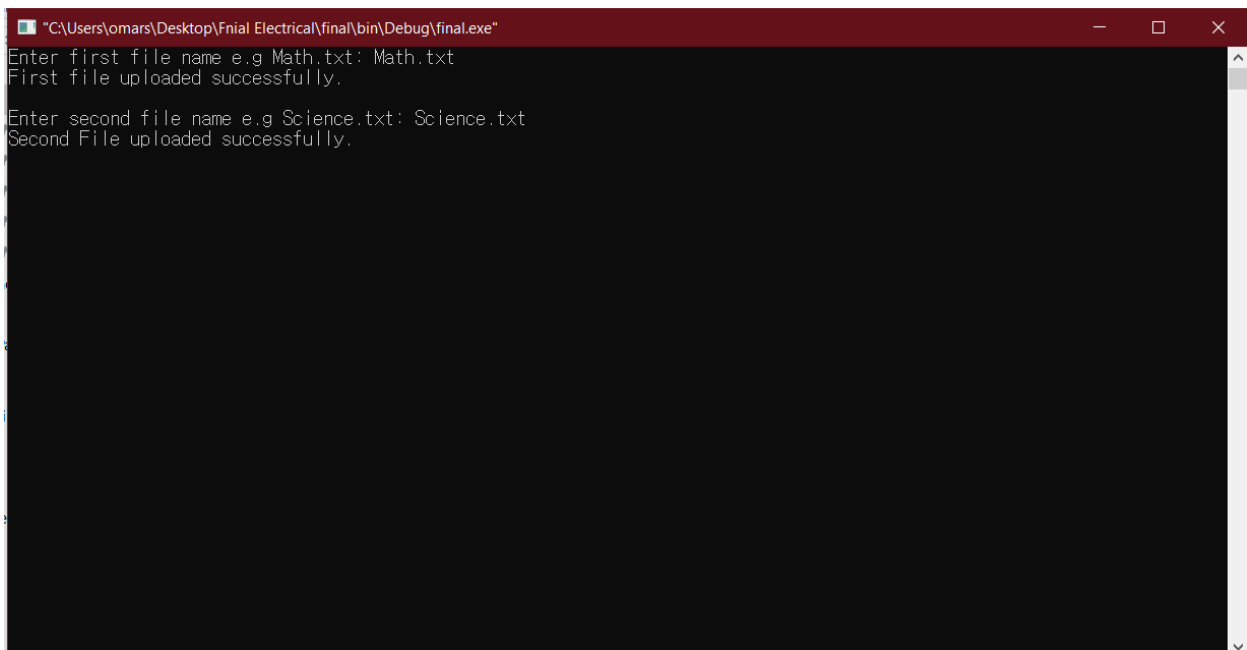
2) Portal for Students:

The students can only see their scores in all the courses they are enrolled into.

- **Implementation:**

1) The welcome screen: The program starts with a welcome screen where the user has to input the file names.

- If the file names are found and reading the file is successful print "File Uploaded Successfully"
- If the file names are wrong and the reading fails print "File isn't uploaded, please try again" and ask the user to input the names again.



```
"C:\Users\omars\Desktop\Fnial Electrical\final\bin\Debug\final.exe"
Enter first file name e.g Math.txt: Math.txt
First file uploaded successfully.
Enter second file name e.g Science.txt: Science.txt
Second File uploaded successfully.
```

2) The main screen: Once the names are inputted successfully in the welcome screen the program moves to the main screen.

- The user can either log in as a professor by pressing entering P or a student by entering S.
- Note: there are some global inputs defined (B back, E exit, M main), those inputs whenever they are pressed inside any windows of the program at any time they should do their tasks.

```
"C:\Users\omars\Desktop\Fnial Electrical\final\bin\Debug\final.exe"
Welcome to final Exam

Global Inputs
B For Back
E for Exit
M for Main.
Meaning of Global Inputs is you can enter these options at any time in whole project
even they are not printed on console
Except where mention to enter specific data type input

Please Press
P for Professor
S for Student
```

3) Professor screen: after you enter P in the main screen the professor screen is shown.

- The user can enter S to show all records
- The user can enter C to calculate the final grades
- Note: the global inputs apply here too

```
"C:\Users\omars\Desktop\Fnial Electrical\final\bin\Debug\final.exe"
Please Press
S for Show All Records
C for Calculate the Final Grades
```

4) Show all records screen: after you enter S in the Professor Screen you have to display the records as follows:

- Note: the global inputs apply here too

```
"C:\Users\omars\Desktop\Fnial Electrical\final\bin\Debug\final.exe"
course name : Mathematics
Instructor : Mannan

ID      NAME  MID  PROJECT FINAL  TOTAL  PERCENTAGE  GRADE
202014  s14    73   79    84    236  0.000000
202013  s13    54   74    69    197  0.000000
202012  s12    76   85    81    242  0.000000
202010  s10    85   78    76    239  0.000000
202008  s8     58   49    43    150  0.000000
202007  s7     65   75    80    220  0.000000
202006  s6     93   89    90    272  0.000000
202004  s4     26   48    56    130  0.000000
202002  s2     87   93    88    268  0.000000
202001  s1     46   54    67    167  0.000000

course name : Science
Instructor : Saeed

ID      NAME  MID  PROJECT FINAL  TOTAL  PERCENTAGE  GRADE
202014  s14    81   76    89    246  0.000000
202013  s13    68   55    75    198  0.000000
202012  s12    89   84    87    260  0.000000
202011  s11    88   84    69    241  0.000000
202010  s10    70   49    38    157  0.000000
202009  s9     78   59    85    222  0.000000
202005  s5     95   75    97    267  0.000000
202003  s3     62   39    64    165  0.000000
202002  s2     79   86    95    260  0.000000
202001  s1     53   47    75    175  0.000000
```

As you can see the data is displayed, the percentage is 0 and there is no grade assigned since the grades have not been calculated yet. (the order of rows doesn't matter; you don't have to do sorting)

- 5) Calculate the final grades screen: after you enter C in the professor screen, the user is asked to enter the minimum value for each grade as follows.
 - o Note: the global inputs apply here too.

```
IMPORTANT: Please enter only integer values and also enter the MIN Value of each Grade
E.G: Only those students will get Grade A whose percentage is greater 90 percent
then enter 90 for grade A Default Grading Policy
Percentage >= 90 then A
Percentage >= 80 then B
Percentage >= 70 then C
Percentage >= 60 then D
Percentage < 60 then F
Please enter Percentage for Grade A 90
Please enter Percentage for Grade B 80
Please enter Percentage for Grade C 70
Please enter Percentage for Grade D 60
```

The user has to input the MIN value for each grade at this page then the percentage is calculated by dividing the total by 3 and then a grade letter is assigned based on your MIN values. Moreover, the results are displayed:

```

"C:\Users\omars\Desktop\Fnial Electrical\final\bin\Debug\final.exe"
Percentage < 60 then F
Please enter Percentage for Grade A 90
Please enter Percentage for Grade B 80
Please enter Percentage for Grade C 70
Please enter Percentage for Grade D 60

course name : Mathematics
Instructor : Mannan

ID      NAME  MID  PROJECT FINAL  TOTAL  PERCENTAGE  GRADE
202014  s14    73   79      84    236    78.666672   C
202013  s13    54   74      69    197    65.666672   D
202012  s12    76   85      81    242    80.666664   B
202010  s10    85   78      76    239    79.666672   C
202008  s8     58   49      43    150    50.000000   F
202007  s7     65   75      80    220    73.333336   C
202006  s6     93   89      90    272    90.666672   A
202004  s4     26   48      56    130    43.333332   F
202002  s2     87   93      88    268    89.333328   B
202001  s1     46   54      67    167    55.666668   F

course name : Science
Instructor : Saeed

ID      NAME  MID  PROJECT FINAL  TOTAL  PERCENTAGE  GRADE
202014  s14    81   76      89    246    82.000000   B
202013  s13    68   55      75    198    66.000000   D
202012  s12    89   84      87    260    86.666664   B
202011  s11    88   84      69    241    80.333336   B
202010  s10    70   49      38    157    52.333332   F
202009  s9     78   59      85    222    74.000000   C
202005  s5     95   75      97    267    89.000000   B
202003  s3     62   39      64    165    55.000000   F
202002  s2     79   86      95    260    86.666664   B
202001  s1     53   47      75    175    58.333332   F

Do you want to Write the Grades in file ?
Please Press
Y for Yes
N for No

```

The user can write the results to a new file called "result.txt" by pressing Y or can skip this step and enter "N" to go back to the main screen.

- 6) Show all records screen UPDATED: since the grades are now calculated, the show all records screen should be updated too and if the user enters S on the professor screen the new scores should be displayed.

```
"C:\Users\omars\Desktop\Fnial Electrical\final\bin\Debug\final.exe"
Please Press
S for Show All Records
C for Calculate the Final Grades S

course name : Mathematics
Instructor : Mannan

ID      NAME    MID    PROJECT FINAL    TOTAL    PERCENTAGE    GRADE
202014  s14      73     79      84      236      78.666672    C
202013  s13      54     74      69      197      65.666672    D
202012  s12      76     85      81      242      80.666664    B
202010  s10      85     78      76      239      79.666672    C
202008  s8       58     49      43      150      50.000000    F
202007  s7       65     75      80      220      73.333336    C
202006  s6       93     89      90      272      90.666672    A
202004  s4       26     48      56      130      43.333332    F
202002  s2       87     93      88      268      89.333328    B
202001  s1       46     54      67      167      55.666668    F

course name : Science
Instructor : Saeed

ID      NAME    MID    PROJECT FINAL    TOTAL    PERCENTAGE    GRADE
202014  s14      81     76      89      246      82.000000    B
202013  s13      68     55      75      198      66.000000    D
202012  s12      89     84      87      260      86.666664    B
202011  s11      88     84      69      241      80.333336    B
202010  s10      70     49      38      157      52.333332    F
202009  s9       78     59      85      222      74.000000    C
202005  s5       95     75      97      267      89.000000    B
202003  s3       62     39      64      165      55.000000    F
202002  s2       79     86      95      260      86.666664    B
202001  s1       53     47      75      175      58.333332    F
```

- 7) Student Screen: if the user inputs S on the main screen the student screen is shown where students can enter their names or id to show their records.
- Note: the global variables apply here too.
 - If the student is enrolled in ONLY one course just show ONLY one record

Please enter your Id OR Name in order to check your scores s1

course name : Mathematics
Instructor : Mannan

ID	NAME	MID	PROJECT	FINAL	TOTAL	PERCENTAGE	GRADE
202001	s1	46	54	67	167	55.666668	F

course name : Science
Instructor : Saeed

ID	NAME	MID	PROJECT	FINAL	TOTAL	PERCENTAGE	GRADE
202001	s1	53	47	75	175	58.333332	F

- Bonus:

In the “show all records screen” show the records sorted in a descending order based on the total score.

- Grading:

- 1) Welcome Screen: 10 Points
 - 2) Main Screen: 10 Points
 - 3) Professor Screen: 10 Points
 - 4) Show All Records Screen: 30 points
 - 5) Calculate the final grades screen: 50 points
 - 6) Student Screen: 30 points
 - 7) Bonus: 15 Points
- Total: 140