CISC 1110 (Science Section)

Professor Langsam

Assignment #5

You have found a job at the Brooklyn College CIS Department. Your assignment is to tabulate the grades of the *Introduction to C*++ course. Each student submits 4 HWs, takes two examinations and a final. The final grade is computed as:

FinalAverage = 30 % of the average of the HWs + 30% of the average of the two  
 examinations + 40% of the Final

Assume there are no more than 50 students in each section. Data can be found in a file called grades.txt. Your output should resemble the following:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CISC 1110 – GRADE ROSTER** | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |
| **Name** | **HW1** | **HW2** | **HW3** | **HW4** | **Exam #1** | **Exam #2** | **Final** | **Average** | **Grade** |
|  |  |  |  |  |  |  |  |  |  |
| John | 100 | 95 | 70 | 80 | 82 | 74 | 71 | 78 | C |
| Sally | 85 | 80 | 95 | 90 | 74 | 48 | 89 | 80 | B |
| Mary | 80 | 85 | 75 | 0 | 34 | 12 | 25 | 35 | F |
| Joan | 100 | 100 | 100 | 90 | 101 | 92 | 99 | 98 | A |
| Mark | 100 | 85 | 95 | 85 | 53 | 38 | 69 | 69 | D |
|  |  |  |  |  |  |  |  |  |  |
| Average | 93 | 89 | 87 | 69 | 69 | 53 | 71 | 72 |  |

Skip five lines and for each student print the student’s highest HW grade, the student’s highest exam grade, and the student’s lowest grade (of all). Sample output would resemble the following:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Name** |  | **Highest HW** |  |  | **Highest Exam** |  | **Lowest Grade** |
|  |  |  |  |  |  |  |  |
| John |  | 100 |  |  | 82 |  | 70 |
| Sally |  | 95 |  |  | 74 |  | 48 |
| Mary |  | 85 |  |  | 34 |  | 0 |
| Joan |  | 100 |  |  | 101 |  | 90 |
| Mark |  | 100 |  |  | 53 |  | 38 |

Skip another five lines and print the student’s name who has the highest average, followed by the student who has the lowest average.

Skip another five lines and reprint the original table in *alphabetical order*.

All tables are to be printed with headings. Be sure to use meaningful variables and use the structured programming techniques we learned in class. You may not use global variables and you should design your program using top-down programing techniques (i.e. use functions with parameters to do all the work.)