Cot 3011 Project 2

Due: Friday Jan. 28 before 5 PM late. (Late submissions before 5 PM Jan. 29.)

Objective:
Write a C program which will assist a teacher in processing exam scores. As the teacher enters the exam scores the program should display the score just entered along with the assigned letter grade. After all scores have been entered a summary report should be displayed.

Specification:
The teacher should be allowed to enter any number of exam scores. The teacher should not be required to inform the computer how many scores there are. The scores may include a decimal point. For this project you may assume that valid test scores range from 0-100. If the user enters a score over 100, your program should display an error message indicating the score was invalid. A letter grade should not be displayed for the invalid score and it should not be included in the summary data.

The grading scale for the course will be 90 or more for an 'A', 80 or more for a 'B', etc. Please note, however, that for the purpose of assigning letter grades all scores will be rounded to the next higher whole number. For example, a score of 89.5 should receive an 'A', while 89.49 should receive a 'B'.

The summary report should display the following information:
> The total number of valid exam scores entered.
> The average of the valid exam scores. (this should be rounded to two decimal places)
> The highest score.
> The lowest score.
> The number of exams assigned an 'A'.
> The number of exams assigned a 'B'.
>> (same for 'C', 'D', 'F')
> The GPA for the exam. ('A' is worth 4 gpa points, 'B' = 3, 'C' = 2, 'D' = 1, and 'F' = 0)
>> (round gpa to two decimal places)

Use proper indentation (notice the style in the textbook).
Use variable names which convey meaning.
Format the output neatly. Make it easy to read and understand.

Use a calculator to check your results. Be certain that you test the program thoroughly. Double check the specification to be certain you have included the correct information in the output.

Sample Run:

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Enter next score (negative to stop) -- 89.5
Score =  89.50  Grade = A
Enter next score (negative to stop) -- 89.49
Score =  89.49  Grade = B
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```
Enter next score (negative to stop) -- 90
Score =  90.00  Grade = A
Enter next score (negative to stop) -- 105
Sorry, scores cannot exceed 100. Please re-enter -- 58
Score =  58.00  Grade = F
Enter next score (negative to stop) -- 70
Score =  70.00  Grade = C
Enter next score (negative to stop) -- 65
Score =  65.00  Grade = D
Enter next score (negative to stop) -- -1


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  Number of scores    6
  Number of A's       2
  Number of B's       1
  Number of C's       1
  Number of D's       1
  Number of F's       1
  High score      90.00
  Low score       58.00
  Average score   77.00
  Exam GPA         2.33
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Project Submission:

Submit your project using the eLearning dropbox. Notice that there is a dropbox for late submissions.

For this project simply submit the file containing your source code (.c).

Grading:

You must demonstrate your project for the instructor in lab. Note that you must complile, link and run it from the UNIX command line for your demonstration. You will also be required to use file redirection for the demonstration.