Program Logic Using C++
CSC 5 #43620
Spring 2014
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Last Name (PRINT)

First Name (PRINT)

Date

Project #2 – Repetition & Switch Statement

Flowchart and implement a program that obtains letter grades as input from a user, then converts each letter grade into grade points. The program should total all the grade points and output the total grade points and the grade point average (note: you may have to track the total number of inputs to calculate the grade point average).

The program should validate all user inputs (using do-while loops). Use a while loop for the main structure of the program that will stop accepting letter grades when the user inputs X. Have this code execute 3 times automatically.

DO NOT USE THE SWITCH STATEMENT FOR ERROR CHECKING.

Create a text file in your eclipse project called *output.txt*. Do this by right clicking on the project folder. Select New -> File and name it *output.txt*. Then cut and paste your input output into this file.

Other requirements:

1 – Code should adhere to the style guidelines for the class.
2 – Implement the conversion from letter grade to numerical grade using a switch statement.

TURN IN (in this order)

1 – Turn in the FIRST PAGE ONLY of this assignment as a cover sheet.
2 – Flowchart for the implementation (including a list of variables).
3 – Output (cut and pasted into a text file within your project and output).
4 – Source code (properly documented).

TIPS

The easiest way to approach this problem is to first implement the while loop. You will need to accept input to initialize the LCV prior to entering the while loop and then again accept input at the end of the while loop to update the LCV.

Once you have completed the while loop and it running properly implement the do-while loops (in place of the inputs) to validate the input. Note, you will need to do this twice: once where you initialize the LCV and again where you change the LCV.

Finally, modify it to execute 3 times.

DO NOT JUST CHECK FOR "G". Your program should be able to handle any character that is not valid.

Input / Output

Run your code with the following input→ the output should be exactly as indicated here except include line #s and have your code output the class heading at the top.

NOTE: Input is bold green, output is blue.

TEST #1:

```
Enter Letter Grade (enter 'X' to exit): A
Enter Letter Grade (enter 'X' to exit): b
Enter Letter Grade (enter 'X' to exit): A
Enter Letter Grade (enter 'X' to exit): d
Enter Letter Grade (enter 'X' to exit): c
Enter Letter Grade (enter 'X' to exit): F
Enter Letter Grade (enter 'X' to exit): A
Enter Letter Grade (enter 'X' to exit): X

Total Grade Points: 18
GPA: 2.57
```

Double Space

Triple Space between runs

TEST #2:

```
Enter Letter Grade (enter 'X' to exit): a
Enter Letter Grade (enter 'X' to exit): G

Invalid letter grade, please try again

Enter Letter Grade (enter 'X' to exit): B
Enter Letter Grade (enter 'X' to exit): e

Invalid letter grade, please try again

Enter Letter Grade (enter 'X' to exit): C
Enter Letter Grade (enter 'X' to exit): x

Total Grade Points: 9
GPA: 3.00
```

TEST #3:

```
Enter Letter Grade (enter 'X' to exit): x
```