100 pts

Name: _____

Class Day / Time: _____

Due Date: _____

Assignment #5:
Selection & Repetition

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 calculate and output the 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).

Use the ***appropriate*** loop for the main structure of the program that will stop accepting letter grades when the user inputs X.

The program should execute 3 times – use the ***appropriate*** loop to accomplish this task.

Other requirements:
1 – Code should adhere to the style guidelines for the class.
2 – Implement the conversion from letter grade to numerical grade using the ***appropriate*** selection statement.

TURN IN (in this order)
As a single PDF
    1 – Loop Worksheet
    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)
The .cpp file

TIPS:
The easiest way to approach this problem is to:
1 – First implement converting a letter grade into the appropriate grade points. You need to choose the most appropriate selection statement for this.
   NOTE: The programs should be able to handle lower and uppercase letters as input.
2 – Next implement the primary loop structure that will allow you to execute just one test run – (including calculating the total grade points and the GPA). Be sure to choose the most appropriate loop for this problem.
3 – Finally, implement the loop that will allow you to run the 3 test runs.

Input / Output

Run your code with the following input→ the output should be exactly as indicated here.

NOTE: **Input is bold green**, output is blue.

```
 8 TEST CASE # 1:
 9     Enter Letter Grade #1: A
10     Enter Letter Grade #2: b
11     Enter Letter Grade #3: C
12     Enter Letter Grade #4: X
13
14 Total Grade Points: 9
15 GPA: 3.00
16
17
18 TEST CASE # 2:
19     Enter Letter Grade #1: a
20     Enter Letter Grade #2: b
21     Enter Letter Grade #3: A
22     Enter Letter Grade #4: d
23     Enter Letter Grade #5: C
24     Enter Letter Grade #6: F
25     Enter Letter Grade #7: a
26     Enter Letter Grade #8: X
27
28 Total Grade Points: 18
29 GPA: 2.57
30
31
32 TEST CASE # 3:
33     Enter Letter Grade #1: X
34
35
```

Class heading should output first

Nothing should output below here when 'X' is the first input