CSE 101 Programming Assignment 1b

Due:

Sunday, 22-October-2023 by 23:59

Deliverables:

The following Java file should be submitted to MS Teams by the due date and time specified above. Submissions received after the deadline will be subject to the late policy described in the syllabus.

- o Assignment1b_{StudentNumber}.java

Specifications (60 points):

Overview: You will write one program for the second part of this assignment. It will determine the grade for a student in a course. Do not forget your program headers with Author and Date information.

- **Course Grade**
  Requirements: Write a program that gets information about a grading for a course in a school or university, then gets the information about a student. It will then display the final grade for the student. The following guidelines should be followed:
  - Grading percentage
    - o Value must be a whole number 0 or greater
      - ▪ If the teacher tries to enter a negative number, the system display an error message and exit
    - o Total must sum to 100
      - ▪ If the teacher enters values that do not sum to 100, the system should display an error message and exit
  - Student points
    - o Value will be a decimal number greater than or equal to 0 and less than or equal to 100 representing percentage of that category achieved.
      - ▪ For this assignment, you will not be required to confirm the value entered is valid for this section
    - o Once all values are entered, the system should calculate the total score and grade letter and if the student passed according to the following chart

Points	GPA Points	Grade Letter	Result
88-100	4.0	AA	Passed
81-87	3.5	BA	Passed
74-80	3.0	BB	Passed
67-73	2.5	CB	Passed
60-66	2.0	CC	Passed
53-59	1.5	DC	Conditionally Passed
46-52	1.0	DD	Conditionally Passed
35-45	0.5	FD	Failed
0-34	0.0	FF	Failed

Design: Your program should consist of Java instructions to display the following information (NOTE: Use your own name as the student's name):

```
Please enter the grading weight (percentages) for the following categories:
Quizzes: 10
Homework: 20
Midterm Exam: 30
Final Exam: 40
Please enter the what Joseph Ledet earned for each category:
Quizzes: 100
Homework: 50
Midterm Exam: 80
Final Exam: 60
Joseph Ledet passed CSE 101 with a score of 68.0, GPA points of 2.5, and a grade letter of CB
```

Your program should exit if the teacher uses negative values:

```
Please enter the grading weight (percentages) for the following categories:
Quizzes: -10
ERROR: Invalid value entered (must be between 0 and 100)
```

Your program should check to make sure the user percentage values that sum to 100:

```
Please enter the grading weight (percentages) for the following categories:
Quizzes: 10
Homework: 30
Midterm Exam: 30
Final Exam: 40
ERROR: The values sum to 110 but should sum to 100.
```

Code and Test: Create variables to store the values entered by the teacher and assign it using a `Scanner` object.

Grading:
MS Teams Submission: You can submit multiple times, however, we will only grade the last version that you submitted.