**Title**: Lab #6  
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**Course & Section**: CSC 111-003W

**Description**: This program prompts the User to enter a number of grades they wish to enter. It will then use a counter-controlled `while` loop to get that many grades. In the loop, it will compute a running total of the grades and keep track of the number of grades counted. After the `while` loop is finished, the program will compute the average of all the grades entered and display the average.

**Initial Algorithm**

Get the total number of grades to be counted

WHILE counter ≤ total number of grades

Prompt for a grade

Add grade to total sum of grades

Increment counter

END WHILE

Display average of grades entered

**Data Requirements**:

Input:

(int) totalGrades – This is the total number of grades that will be entered

(int) grade – This is the value of the current entered grade

Output:

(int) gradeAvg – This is the final average of all the grades

Additional Variables:

(int) counter – This is the number of the current iteration

(int) gradeSum – This is the running total of all the grades entered so far

**Formulas**:

To increment the running total of grades:

gradeSum += grade

To find the total average:

gradeAvg = (totalGrades ≤ 0) ? 0 : (gradeSum / (double)totalGrades)

To increment the counter:

counter++

**Refined Algorithm**

Prompt totalGrades

Initialize counter to 0

Initialize gradeSum to 0

WHILE counter < totalGrades

Get grade

Add grade to gradeSum

Increment counter by 1

END WHILE

IF totalGrades ≤ 0 THEN

Display error message that no grades were entered

ELSE

gradeAvg = gradeSum / totalGrades

Display gradeAvg

END IF