CSCI 1300
Summer 2018
Assignment 1

Part 1: Pseudocode

Consider the **Homework Point Sum** problem below. The problem states:

Get all homework scores for one student, calculate and display the sum of the scores, and also display the word "fail" if the sum is lower than 150. Note: we do not know how many homework scores each student will enter.

Here are a few **algorithms** that could solve the problem above:

A. *Ask the user how many homework scores there are at the beginning. Then, ask for a homework score at a time, for as many times as indicated by the user.*

B. *Ask for homework scores, one at the time, and have user enter "-1" or "stop" or "quit" at the end (some sentinel word).*

C. *After each score is entered, ask the user if they have more scores to enter. If they say "Yes", ask them to enter the next score. If they say "No", then you now know you have all the scores and you can compute the sum.*

Let's look at one possible sample run for version A (the values entered by the user will be shown in red)

```
Welcome to the Homework Point Sum program!
How many assignments did you complete? 5
Enter score 1: 30
Enter score 2: 25
Enter score 3: 14
Enter score 4: 42
Enter score 5: 23
Homework point sum is 134
Fail
```

Task 1.1

Write a sample run for algorithms B and C in the same format as the example above.

Task 1.2

Write a **pseudocode** for algorithms A, B, and C. Make sure that your pseudocode logic matches your sample run.

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Part 2: Pseudocode → Implementation

Now that we have written a detailed enough pseudocode, we should be able to **translate these into actual code.**

Task 2.1

Write three separate programs that implement algorithms A, B, and C in C++. Name these files algA.cpp, algB.cpp, and algC.cpp. Your program outputs should match your sample runs from part 1.

Note: You won't be able to complete part 2 until later this week given what we've covered so far.

Submitting the assignment

- For part 1, put all of your answers in a plain text file (.txt).
- For part 2, as mentioned, we want three separate programs (**algA.cpp, algB.cpp, and algC.cpp**).
- Combine all files into a **.zip** and submit via the submission link in moodle