**In Class 6 – while Loops**

In this assignment, you will be writing a C++ program in which you write a bunch of while loops!

**Goals**

Practice with

* writing lots of while loops

**Problem Statement**

You are writing 4 individual loops for this assignment. The last loop is a "Do you want to do that again?" type of loop around the next to last loop. Follow the instructions below.

1. Write a snippet of code that prompts the user for a number and adds up the even numbers from 1 to that entered number.

**Enter the number to add the even numbers up to: 33**

**LOOP1 total = 272**

1. Write another snippet of code that prompts the user for 2 numbers and adds up the numbers between (and including) the numbers.

**Enter a lower and upper number to sum: 22 44**

**LOOP2 total = 759**

1. Write another snippet of code that prompts the user for file name and adds up all of the numbers in the file. Read until EOF (end of file).

**Enter a file name to read from: in.in**

**LOOP3 total = 18.0000**

1. Write another snippet of code **around the code for #3** that prompts the user whether she or he wants to prompt and read another file.

When the user enters **n**, then the program continues on to Part #5.

**Enter a file name to read from: in.in**

**LOOP3 total = 18.0000**

**Do you want to do all of this again? y**

Error message when the file does not open (does not exist).

**Enter a file name to read from: in**

**error opening file!**

1. Write another snippet of code that prompts the user for file name and reads & adds up the first 5 numbers in the file. (Part 5 executes even when the error message is printed in Part4.)

**Enter another file name to add 5 numbers from: in.in**

**LOOP4 total = 18.0000**

1. Finally, add a snippet of code to print the 3rd number in the file.

**Enter another file name to add 5 numbers from: in.in**

**number3 = -1.0000**

**LOOP4 total = 18.0000**

**Input/Output Example**

You must create your own input files so you can determine the output. For these tests, I am only using files with 5 or 7 numbers in them.

Your output should look like this: (Please copy and paste the output text AND prompts into your code! I match on this text to grade your programs. Use fixed and setprecision(4).)

**Enter the number to add the even numbers up to: 33**

**LOOP1 total = 272**

**Enter a lower and upper number to sum: 77 79**

**LOOP2 total = 234**

**Enter a file name to read from: in1.in**

**LOOP3 total = 18.0000**

**Do you want to do all of this again? y**

**Enter a file name to read from: in2.in**

**LOOP3 total = 14.0000**

**Do you want to do all of this again? y**

**Enter a file name to read from: in2.in**

**LOOP3 total = 14.0000**

**Do you want to do all of this again? n**

**Enter another file name to add 5 numbers from: in1.in**

**number3 = -1.0000**

**LOOP4 total = 18.0000**

**End of Program!**

This shows what happens when the input file does not exist: (You should use a **break;** statement instead of using **"return 1;"** inside the **if** statement for when the file does not open so that the program continues on to the next step in the assignment.)

**Enter the number to add the even numbers up to: 6**

**LOOP1 total = 12**

**Enter a lower and upper number to sum: 1 3**

**LOOP2 total = 6**

**Enter a file name to read from: in.in**

**error opening file!**

**Enter another file name to add 5 numbers from: in1.in**

**number3 = -1.0000**

**LOOP4 total = 18.0000**

**End of Program!**

**Submit Your Work**

To submit your work to Web-CAT to be graded.