

CS 150 Lab 8

Files & Loops

The objective of today's lab is to practice do-while loops, for loops, and reading from files.

- Be sure your output looks exactly like the specified output.
- Be sure to submit the completed project to CS150-01 Drop by Friday at 5pm.
- Be sure to follow the coding standards and add comments to your code!

Lab 8.1

Write a complete C++ program in a project called **08_1_IsSorted** that reads a number of integers from a text file named **numbers.txt**. The sentinel value is -999. The following data file has 12 values and a sentinel value of -999.

```
2 3 5 7 8 10 12 13 15 1 11 15 -999
```

Your program must print out to the screen each integer value (five values per line right justified in a field of 3). After outputting all values, output the number of integers read (excluding the sentinel value), the sum of all numbers, and SORTED if the values are in order from smallest to largest; otherwise, output NOT SORTED.

HINT: Write and test the code to produce the Count, then the Sum, then the SORTED portion.

```
*** Number Cruncher ***
```

```
  2  3  5  7  8
10 12 13 15  1
11 15
```

```
Count: 12
Sum: 102
NOT SORTED
```

Show the instructor or TA your solution

Testing: Test your input on these input files. You must create these files.

Test1.txt

```
1 2 3 4 5 6 7 8 -999
```

Test2.txt

```
2 3 5 7 8 10 12 13 15 1 11 15 -999
```

Test3.txt

```
-999
```

Test4.txt

```
1 -999
```

Lab 8.2 Optional Challenge (Good exam review)

Write a complete C++ program in a project called **08_3_Alphabet** that asks the user to enter any uppercase character in the alphabet. Print the alphabet starting from the character entered by the user to the character Z.

```
*** Alphabet ***
```

```
Enter an uppercase letter: a
```

```
Enter an uppercase letter: W
```

```
WXYZ
```

Show the instructor or TA your solution

- 1) Your programs are to compile without any errors or warnings.
- 2) Do not use any magic constants in your program. Define your constants before defining the rest of your program's variables.

Once your projects are complete, place your solution into the CS150-01 Drop folder on grace. Your solution is to have ALL previous projects completely working and correct.