

Sejong University
Department of Computer Science and Engineering
Problem Solving with C++
Homework # 1

Due Date: 9th April 2020

Description.

[Problem 1] Read two lower-case (or upper-case) alphabet letters, print the letters in an alphabetical order as shown below.

Note: If letters are given in a reverse order, letters should be printed in a reverse order.

No space is allowed between letters.

Input example	Output example
ad	abcd
da	dcba
AE	ABCDE

[Problem 2] Use for loop and while loop together to print as shown below:

Note: Print space between numbers.

1 2 3 4 5 6 7 8 9 0
2 3 4 5 6 7 8 9 0 1
3 4 5 6 7 8 9 0 1 2
4 5 6 7 8 9 0 1 2 3
5 6 7 8 9 0 1 2 3 4
6 7 8 9 0 1 2 3 4 5
7 8 9 0 1 2 3 4 5 6
8 9 0 1 2 3 4 5 6 7
9 0 1 2 3 4 5 6 7 8
0 1 2 3 4 5 6 7 8 9

[Problem 3] Keep reading integers until it gets 0 or a negative integer. Calculate and print the sum, average, count of the integers.

Note: Use while loop, if statement, break statement, continue statement all in your code.

Input example	Output example
2 8 3 7 4 6 -1	30 5.00 6
1 2 3 4 5 6 7 8 9 0	45 5.00 9
10 20 30 40 50 60 70 -22	280 40.00 7

[Problem 4] Read an integer N between 1 and 999. Count how many times a number 3 appears from 1 to N.

- 13 -> once
- 33 -> twice

Input Example	Output Example
10	1
33	8
333	102

[Problem 5] Read an integer that greater than or equal to 10. Calculate the digit root of the integer.

- Digit root ex) $6234 \rightarrow 6 + 2 + 3 + 4 = 15 \rightarrow 1 + 5 = 6$

Input Example	Output example
6234	6
123456789	9
40	4