CS 101, Spring 2020

Homework Assignment 1

Due: 18:00, April 24, 2020

Instructions:

- Write your answers on an empty A4 paper by handwriting. It is very important to have the answers written in YOUR OWN HANDWRITING. The answers provided by other ways (for example, by typewriting or in others' handwriting) will not be considered and will not be graded.
- Put CS101 – Homework 1, your name, your id and your section number at the top of each page which includes your answer.
- You must follow course style rules and Java conventions. Indent your code properly!
- Before the deadline, upload the scan of your handwritten answer as a single PDF to Moodle "Homework 1" activity using the following file naming convention:
  SS_HW01_Surname_FirstName.zip
  where SS is the section number 01 or 02, and Surname is your family name, & FirstName is your first name.

- You can upload only one PDF file! The system will not allow you to upload other types of files or multiple files. You can upload multiple times until the deadline.

Question 1:

Write a Java program (***Histogram.java***) that reads a series of integer numbers until the user enters a negative number, then prints the histogram of those numbers using '*' character.

You are not allowed to store the numbers read from the user; simply process each one as it is read!

Hint: *Nested loops* will be used for this problem. You should store the result as a string, then print this string to show the output.

Sample Run: (User inputs are shown in red.)

```
Enter the numbers: 3 5 7 9 4 1 -3

Output:

3  ***
5  *****
7  *******
9  *********
4  ****
1  *
```

Question 2:

Write a Java program (***AdjacentDuplicates.java)*** that reads a series of integer numbers and prints all adjacent duplicates together with their occurrence counts. Assume that the input ends with 0.

You are not allowed to store the numbers read from the user; simply process each one as it is read!

Sample Run: (User inputs are shown in red.)

```
Enter numbers: 2 2 2 3 5 5 6 6 6 78 78 78 78 2 2 3 1 1 1 5 4 5 5 0

Output:

Adjacent Duplicate, Occurrence Count
2, 3
5, 2
6, 3
78, 4
2, 2
1, 3
5, 2
```