**LAB 3**

**Loops and Methods – 10 points**

**Instructions:**

1. After downloading the lab assignment from Blackboard, please write the appropriate Java programs in BlueJ IDE.
2. If stuck anywhere, the instructor and the lab assistant are always there to help.
3. Lab assignments need to be uploaded onto Blackboard by the due date listed on Blackboard.
4. You would need to submit a .docx file. Copy-paste the written code and a sample run of the program.
5. Online resources can ‘definitely’ be consulted. However, please refrain from using content from the internet as-is. The mark of a good programmer is to write clean and genuine code – anytime, anywhere, and always.

Short:

1. Write a program that prints a 9x9 multiplication table. The computation of the table must happen in a method called ‘print\_mul\_table’. The method should be called from the main method. **(3)**
2. Write a method that prints the following pattern: **(1)**

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n denotes the number of lines to print. ‘n’ should be a user input into the console.

Medium:

1. a) Write a program that displays the following: **(2)**

1 1

1 2 2 1

1 2 3 3 2 1

1 2 3 4 4 3 2 1

1 2 3 4 5 5 4 3 2 1

1 2 3 4 5 6 6 5 4 3 2 1

Assume the user doesn’t input value beyond 6 onto the console. Code needs to be implemented as nested for-loops. If the input is 5, the output should stop at the 5th line, and likewise. You may arbitrarily choose the amount of spacing between the two ‘hills’ of numbers.

1. b) Write a program that prints the following pattern: **(2)**

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Accept ‘number of lines to print’ as input from the user. If ‘number of lines to print’ is inputted as 3, then print 3 lines, and likewise. I may ask to input a big number such as 89.

Long:

1. Write a method that computes the case-insensitive longest common prefixs between two user inputted words. For example: **(2)**

Case 1:

Input: “Hello World”

Input: “Hello Pluto”

Output: “Hello ”

Case 2:

Input: “Bye World”

Input: “bye world”

Output: “bye world”

Case 3:

Input: “Hello World”

Input: “Bye Pluto”

Output: No prefix match

Case 4:

Input: “Hello bye”

Input: “bye bye”

Output: No prefix match

Modularize your code, into methods, according to your discretion.