Lab 18

Instructions: Complete the steps below. Be sure to show your code to one of the lab TAs before you leave, so that you can receive credit for this lab. You must also upload a copy of all your source code (.java) files to the link on Blackboard by **11:59 PM on Wednesday November 4, 2020 for L01, L02, L03, L05 and by 11:59 PM on Tuesday November 3, 2020 for L06, L07, L08 and L09**.

1. Write a program that generates 100 random integers between 0 and 9 and displays the count for each number. (***Hint:*** Use an array of 10 integers say counts, to store the counts for the number of 0s, 1s, …,9s)

2. Write a method that sums all the numbers in the major diagonal in an $n \times n$ matrix of double values using the following header:

   public static double sumMajorDiagonal(double[][] m)

   Write a test program that reads a 4-by-4 matrix and display the sum of all its elements on the major diagonal.
   Here is a sample run:
   Enter a 4-by-4 matrix row by row:

1	2	3	4.0
5	6.5	7	8
9	10	11	12
13	14	15	16

   Sum of the elements in the major diagonal is 34.5

Grading Guidelines: This lab is graded on a scale of 0-6 points, assigned as follows:
- **0 points:** Student is absent or does not appear to have completed any work for the lab
- **2 point (2*1):** Student has written the program, but it has errors.
- **4 points (2*2):** Student has written the program it compiles without error, but it does not produce the correct output.
- **6 points (2*3):** Student has written the program and it compiles and runs correctly, without any errors.