***CSC 3020***

***Java Programming***

**Lab 02**

**25 points**

**Due 10/15/2020 (10:10 A.M.)**

Assignment Objectives:

■■ To declare variables for two-dimensional arrays, create arrays, and access array elements in a two-dimensional

array using row and column indices.

■■ To program common operations for two-dimensional arrays (displaying arrays and summing all elements)

■■ To pass two-dimensional arrays to methods.

All labs must be submitted by the Canvas. **No email or hard copy** is accepted. You must follow the following format:

1. Submit your file to the Canvas. You must submit your file on time; otherwise, you will receive zero.
2. You can upload your file as many times as you like. Only the last attempt counts because the last file you uploaded is the only file your instructor will see.
3. There will be several modules on the Canvas. You need to upload your file using the correct module on the Canvas.
4. Name the lab file: *Lab (labt number)*
5. To upload your file(s):

* In Course Navigation, click the ASSIGNMENTS module.
* Click the title of the assignment.
* Click the **Submit** Assignment button.
* Add **File**. ...
* **Submit** Assignment. ...
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*It is your responsibility to make sure that the file is uploaded correctly. If you uploaded a wrong file, you receive zero; files will not be accepted after due date even if you have a prove that the file is created before the due date.*

***Make sure you review the Cheating & Plagiarism policy on Canvas.***

**Solution to this assignment will not be posted on Canvas; however, any question can be discussed in the class upon request of a student.**

(Markov matrix) An *n* \* *n* matrix is called a *positive Markov matrix* if each element is positive and the sum of the elements in each column is 1. Write the following method to check whether a matrix is a Markov matrix:

**public static boolean** isMarkovMatrix(**double**[][] m)

Write a test program that prompts the user to enter a 3 \* 3 matrix of double values and tests whether it is a Markov matrix. Here are sample runs:

