CSCI-101 Programming 1

Lab 8

Log onto cs.bridgewater.edu. Change your working directory to the labs directory in your repository. Create a subdirector (in labs) named **lab8**. Change your working directory to **lab8**.

Write a Java class named **MatrixPlay**. The class should contain a main method and methods with the following signatures and behavior.

When complete with this lab, please push your code to GitHub.

static void printMatrix(int[][] matrix)

printMatrix( ) takes an 2D array of integers as an argument and prints the elements in the matrix to the screen with each row of the matrix on a separate line and spaces between them.

static boolean contains(int[][] matrix, int x)

contains( ) takes a 2D array of integers and an integer as arguments and returns true if the value of the second argument is found in the matrix passed in as the first argument. Otherwise, the method returns false.

static int[][] clone(int[][] matrix)

clone( ) takes a 2D array of integers as the first argument and returns a new 2D array of integers having the same size and containing the same elements as the matrix passed into the method.

static int elementAt(int[][] matrix, int row, int col)

elementAt() takes a 2D array of integers as the first argument and an integer as the second and third arguments. The method returns the element in the row and column specified by the first and second arguments, respectively.

public static void main(String[] args)

main( ) should ask the user to enter an integer indicating the number of rows of a matrix and the number of columns of a matrix and then read in the integers. The program should then create a matrix with those dimensions and fill it with random integers between 0 and 99.

The program should then call each of the above methods 1 or more times to determine if they are working properly.