Computer Science 130
Midterm 2

PART ONE

Email Ariel whether you will:

- Redo Lab 2 and/or Lab 3 for up to 90 percent credit (Due Monday 4/1 at 5:00PM)

  OR

- Keep the lab grades you have.

PART TWO - Due Tuesday 3/25 at 10:00AM EST

Please fork the template called Midterm 2 in COSC 130.02 (Ariel) and complete the three methods found in the Main.java file. You may create additional testing methods if you wish but your solutions should be contained in the three below methods.

You are encouraged to look back at videos and past assignments while completing this exam, though you may not ask the TA for help with the midterm.

In class on Thursday you will be asked questions about the three methods below and asked to make changes to them.

1. **declareAndInitialize Method**

   (a) Declare a 2D integer array with n rows and m columns, m and n are the integer parameters of the method.

   (b) Fill in the 2D array with random numbers from 0 and 100.

   (c) Change the method signature to require a return of the 2D array and return the array you just created.

   Example: If n = 3 and m = 5, then your array might look like this:

13	95	96	71	39
36	30	31	29	57
84	83	40	11	10

2. **findX Method**

   (a) Change the method signature so that it takes in a 2D integer array.

   (b) Ask the user for a number between 0 and 100.

   (c) If the number the user entered is in the 2D array print the coordinates of the integer.

   (d) If the user input is in the array twice print out the first occurrence only.

(e) If the user input is not in the array tell the user that their input is not there.

Example 1: On the above array if the user enters 11, output: 11 found at (2,3).

Example 2: On the above array if the user enters 12, output: 12 not found.

3. **recursiveFindMin Method**

(a) Change the method signature so that it takes in a 1D integer array (NOT 2D!) and as many other parameters as you wish to use.

(b) Recursively, find the smallest number in the array and return it .