

Workshop 1

Description:

The first Assignment lets you practice basic java coding techniques, creating classes, methods and using arrays.

Task 1:

Design a class named Location for locating a **maximal value** and its **location** in a two-dimensional array. The class contains data fields row, column, and maxVal that store the maximal value and its indices in a two-dimensional array with row and column as int and maxVal as a double type.

Write a method that returns the location of the largest element in a two-dimensional array
The return value should be an instance of Location.

Your program that prompts the user to enter a two-dimensional array and displays the location of the largest element in the array.

Here is a sample run:

Enter the number of rows and columns in the array: 3 4

Enter the array:

23.5 35 2 10

4.5 3 45 3.5

35 44 5.5 9.6

Task 2:

Craps is a popular dice game played in casinos. Write a program to play a variation of the game, as follows:

- Roll two dice.
- Each die has six faces representing values 1, 2, ..., and 6, respectively.
- Check the sum of the two dice. If the sum is 2, 3, or 12 (called *craps*), you lose.
- If the sum is 7 or 11 (called *natural*), you win.

- If the sum is another value (i.e., 4, 5, 6, 8, 9, or 10), a point is established. Continue to roll the dice until either a 7 or the same point value is rolled. If 7 is rolled, you lose. Otherwise, you win.

Your program acts as a single player.

You rolled $5 + 6 = 11$
Congratulations, You win

You rolled $1 + 2 = 3$
Better Luck Next Time, You lose

You rolled $4 + 4 = 8$
Point is set to 8
You rolled $5 + 1 = 6$
You rolled $1 + 1 = 2$
You rolled $6 + 2 = 8$
Congratulations, You Win

You rolled $5 + 1 = 6$
Point is set to 6
You rolled $2 + 5 = 7$
Better Luck Next Time, You Lose

Marking Criteria:

Please note that you should have:

- Appropriate indentation.
- Proper file structure
- Follow java naming convention
- Document all the classes properly
- Not have any debug/ useless code and/ or files in the assignment

Deliverables and Important Notes:

- You are supposed to show up AND hand in your solution in person (run the solution and/or answer related Qs) in lab time.
- In case you don't show up OR hand in/run the required task in the lab, you could submit your final solution (described below) on the due date but note that there would be a 70% penalty! Late submissions would result in additional 10% penalties for each day or part of it.
- In this case, you should zip *only the Java files* to a file named after your Last Name followed by the first 3 digits of your student ID. For example, if your last name is **Savage** and your ID is **354874345** then the file should be named **Savage354.zip**. Finally upload your zip file on blackboard.

- Remember that you are encouraged to talk to each other, to the instructor, or to anyone else about any of the assignments, but the final solution may not be copied from any source.