

CS-224: Object Oriented Programming & Design Methodologies

Midterm 01

Duration: 90 Minutes

Rules:

Use of internet, personal computers and mobile devices is strictly prohibited.

No talking or exchanging notes.

You cannot use any paper or notebook.

Failure to comply will result in immediate disqualification.

In the last 5 minutes, upload your answers to SCM

Once the solution has been uploaded, move away from your lab machine and wait for the evaluator to call you up for Viva.

Once Viva is done, you must leave the classroom

Question 1: (25% points)

Write a class Point that can hold decimal values for the attributes x and y. It should have the following functions:

Constructor

Overloaded Constructor

Add function that accepts the values x and y

Add function that accepts a reference to a Point

Add function that accepts a pointer to a Point

Show function that displays all the values

All Add functions should add the values to the attributes of the class

Place the attributes and functions in the appropriate access specifiers

Question 2: (25% points)

Write a function

void AllAreas(Point[], Point[]);

That takes in two arrays

The first array takes the top-left values of 3 rectangles

The second array takes in the bottom-right values of the same 3 rectangles

The values are:

1, 0	2, 2	1, 8
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12, 30	12, 10	5, 9
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It then shows the Area of all the three rectangles. You can hardcode the length of arrays to 3 where needed.

Question 3: (50% Points)

You have been provided with a sample code file for Question 3. All the code in the file is supposed to remain as it is. You however need to add extra code to complete this task. The two cout statements in the end should give some output once you are done. Remove the comments from inside the cout statements and add proper code in its place.

You are not supposed to change any other part of the code and keep it as it is which includes all the variables and function prototypes. You need to complete the code inside DataAnalyzer function which is the main task. There might be something missing in the main function as well so thoroughly check if there is something missing that should be there. **ATTEMPT THIS QUESTION LAST!** It is not difficult, you only need to be a little creative.

Good Luck!