

# CST 452-2: Middleware Architecture

## Assignment 2

Duration: 1 Hour

Upload your RMI Program along with the screen shots of the running server and the client terminals (as images) to the VLE as a zip file with your registration number.

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### Question:

You are required to implement a simple middleware system using RMI (Remote Method Invocation) to satisfy the clients by providing the following requirements.

Requirement 1: Find the area of a rectangle.

Requirement 2: Find the area of a circle.

Define an interface called **AreaCalculator** including the methods;

**findAreaOfRectangle(double height, double width)** and

**findAreaOfCircle(double radius).**

Implement the server which serves the clients by returning the area of a rectangle and the area of a circle using the given dimensions. (The dimensions are passed by the client as user inputs)

Implement the client who is requesting to find the area of a rectangle or the area of a circle with the given dimensions. In your client program, first, the client should be given the chance to enter his choice (whether he need to find the area of a rectangle or a circle). Based on the choice, he should be able to enter the required parameters/dimensions of the shape. Finally, the client should be able to view the area of the requested shape. (Note: your program should print a message for an invalid input)

The output of your client program should be look like this;

```
Select your choice:
press 1 to calculate area of a rectangle
press 2 to calculate area of circle
1
Enter height:
20
Enter width:
30
Area of the rectangle is: 600.0
```

} For a rectangle

```
Select your choice:
press 1 to calculate area of a rectangle
press 2 to calculate area of circle
2
Enter radius:
7
Area of the circle is: 153.86
```

} For a circle