

Web Technologies Lab

Lab 01**Marks 100****Instructions**

Work on this quiz/lab individually.

You are **NOT** allowed to use the internet, or mobile phone.

You are **NOT** allowed to borrow anything from your peer student.

What you have to do

Program the following tasks. The name of your files will be according to the task given in this lab.

Task 1**[100]**

Write a program that takes input using **command line arguments** and calculates the area of a geometric shape based on the input. The program should display the calculated area using the GUI component. Your program should support the following shapes:

- Square: $A = s^2$ (where s is the length of one side)
- Rectangle: $A = lw$ (where l is the length and w is the width)
- Parallelogram: $A = bh$ (where b is the base and h is the height)
- Trapezoid: $A = ((b_1 + b_2) / 2)h$ (where b_1 and b_2 are the lengths of the parallel sides and h is the height)
- Triangle: $A = (1/2)bh$ (where b is the base and h is the height)
- Circle: $A = \pi r^2$ (where r is the radius)
- Ellipse: $A = \pi ab$ (where a is the length of the semi-major axis and b is the length of the semi-minor axis)

If the user enters an invalid shape, the program should display an error message and prompt the user to try again.

Instructions:

- The first argument shall be the shape-type. You can use the `.equals()` function to compare the string in Java. For instance, `args[0].equals("Square")`
- For different shapes, the number of command line arguments may vary. For instance, in the case of a Square, the total arguments would be two (shape-type, and s) whereas, there would be three arguments for Rectangle (shape-type, l , and w), and so forth.
- Convert the string arguments into appropriate types using the concept of wrapper classes.
- The syntax of conditioning and looping is the same as you used in C++.

☺ ☺ ☺ **BEST OF LUCK** ☺ ☺ ☺
