

CS1050 Assignment 5 (50 points)

Please complete the program below and submit the java source code file(.java fil) on Canvas.

Your programs will be graded based on the correctness by running and testing. Please carefully run and test your program before turning them in. The code that is not compiled will receive ZERO credit.

NOTE: **First** is your first name and **Last** is your last name.

Geometry Calculator

Design a Geometry class called **First_Last_Geometry.java** with the following methods:

- A static method that accepts the radius of a circle and returns the area of the circle.
Use the following formula: $Area = \pi r^2$
Use Math.PI for π and the radius of the circle for r.
- A static method that accepts the length and width of a rectangle and returns the area of the rectangle.
Use the following formula: $Area = length * width$
- A static method that accepts the length of a triangle's base and the triangle's height. The method should return the area of the triangle.
Use the following formula: $Area = Base * Height * 0.5$

The methods should display an error message if negative values are used for the circle's radius, the rectangle's length or width, or the triangle's base or height.

Next, write a program called **First_Last_Demo.java** to test the class, which displays the following menu and responds to the user's selection:

Geometry Calculator

1. Calculate the Area of a Circle
2. Calculate the Area of a Rectangle
3. Calculate the Area of a Triangle
4. Quit

Enter your choice (1—4):

Display an error message if the user enters a number outside the range of 1 through 4 when selecting an item from the menu.

You need to turn in First_Last_Geometry.java and First_Last_Demo.java