

CS401 Lab 1: Circle Area Calculator

Overview

- This lab is to be completed individually.
- Purpose: Ensure all students can write and execute basic Java programs.
- You may use any Java development environment of your choice.

Objectives

1. Write a Java program to calculate the area of a circle.
2. Implement object-oriented programming concepts.
3. Practice proper code documentation.

Requirements

1. Circle Class

- Create a class named Circle in a separate file.
- Include:
 - radius as an instance variable
 - Getter and setter methods for radius
 - A toString() method
 - A method to calculate the area

2. Main Application

- Create a separate class with the main method to run the program.
- This class should:
 - Accept user input for the radius
 - Create a Circle object
 - Calculate and display the area

3. Code Documentation

- Include inline comments for all methods and complex code sections.
- Provide a README file explaining how to run the program.

Input and Output

Input

- The program should prompt the user to enter the radius of a circle.

Output

- Display the calculated area of the circle.

Example Execution

Enter the radius of a circle:

10

Area of the circle is: 314.16 square units

Submission Requirements

1. Source Code:
 - Circle.java
 - MainApplication.java (or similar name for your main class)
2. Compiled Bytecode:
 - Circle.class
 - MainApplication.class

3. Output:
 - PDF file containing program output
4. Documentation:
 - README file with instructions on how to run the program

Important Notes

- Do not include any package declarations in your code.
- Ensure your program runs without any dependencies.
- Submit all files on Blackboard before the assigned due date.