



Pretest: Object-Oriented Programming (OOP) and Basic Java

Instructions:

- This practical pretest is designed to evaluate your understanding of OOP and basic Java concepts.
- You have 2 hours to complete the tasks.
- Read each task carefully before proceeding.
- Provide clear and concise code for each task.
- Save your files with appropriate names.
- Ensure your code follows good coding practices.

Task 1: Java Basics

1. Create a Java program that prints "Hello, World!" to the console.
 - Demonstrate your understanding of the basic syntax.
2. Write a Java program that takes two numbers as input from the user and displays their sum.
 - Use appropriate input/output methods.

Task 2: Object-Oriented Programming (OOP)

3. Create a class named Person with attributes name and age. Include a method to display the details of the person.
 - Instantiate the class and demonstrate the usage of objects.
4. Extend the Person class to create a subclass Student with an additional attribute studentID. Override the display method to include student-specific details.
 - Demonstrate inheritance and method overriding.

Task 3: Inheritance and Polymorphism

5. Create an interface Shape with methods calculateArea() and displayShape().
 - Implement the interface in two classes: **Circle** and **Rectangle**.
 - Use polymorphism to display the area of each shape.

Task 4: Exception Handling

6. Write a Java program that takes an integer input from the user. Handle any exceptions that may occur (e.g., NumberFormatException) and display an appropriate message.
 - Demonstrate your understanding of exception handling.

Task 5: File Handling

7. Create a Java program that reads data from a text file named input.txt and displays it on the console.
 - Handle file exceptions appropriately.

Note:

- Save each Java program in a separate file with appropriate names (e.g., **HelloWorld.java**, **Calculator.java**).
- Organize your code into logical sections with comments where necessary.
- Zip all your Java files into a single archive for submission.