Task 1: Java code For Simple Calculator Application

Code:

```java
import java.util.Scanner;

public class Calculator {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the first number: ");
        double num1 = scanner.nextDouble();

        System.out.print("Enter the second number: ");
        double num2 = scanner.nextDouble();

        System.out.println("Choose an operation:");
        System.out.println("1. Addition (+)");
        System.out.println("2. Subtraction (-)");
        System.out.println("3. Multiplication (*)");
        System.out.println("4. Division (/)");

        int choice = scanner.nextInt();

        double result = 0;

        switch (choice) {
            case 1:
                result = num1 + num2;
                break;
            case 2:
                result = num1 - num2;
                break;
            case 3:
                result = num1 * num2;
                break;
            case 4:
                result = num1 / num2;
```

```
                break;
            default:
                System.out.println("Invalid choice");
        }

        System.out.println("Result: " + result);

        scanner.close();
    }
}
```

Output:

1. Enter the first number: 1
    Enter the second number: 2
    Choose an operation:
    Addition (+)
    Subtraction (-)
    Multiplication (*)
    Division (/)
    1
    Result: 3.0

2.Enter the first number: 2
Enter the second number: 3
Choose an operation:
1. Addition (+)
2. Subtraction (-)
3. Multiplication (*)
4. Division (/)
3
Result: 6.0

3.Enter the first number: 3
Enter the second number: 2
Choose an operation:
1. Addition (+)

2. Subtraction (-)
3. Multiplication (*)
4. Division (/)
2
Result: 1.0

Task 2: java code for Number Guessing

Code:
```java
import java.util.Scanner;
import java.util.Random;

public class NumberGuessingGame {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        Random random = new Random();

        int minRange = 1;
        int maxRange = 100;
        int randomNumber = random.nextInt(maxRange - minRange + 1) +
minRange;

        int guess;
        int attempts = 0;

        System.out.println("Welcome to the Number Guessing Game!");
        System.out.println("I'm thinking of a number between " + minRange + "
and " + maxRange + ".");

        do {
            System.out.print("Take a guess: ");
```

```java
        guess = scanner.nextInt();
        attempts++;

        if (guess < randomNumber) {
            System.out.println("Too low! Try again.");
        } else if (guess > randomNumber) {
            System.out.println("Too high! Try again.");
        } else {
            System.out.println("Congratulations! You guessed the number in " +
attempts + " attempts.");
        }
    } while (guess != randomNumber);

    scanner.close();
  }
}
```

Output:

Welcome to the Number Guessing Game!
I'm thinking of a number between 1 and 100.
Take a guess: 5
Too low! Try again.
Take a guess: 4
Too low! Try again.
Take a guess: 5⁇ ⁇20
Too low! Try again.
Take a guess: 50
Too high! Try again.
Take a guess: 30
Too low! Try again.
Take a guess: 40
Too high! Try again.
Take a guess: 35
Too high! Try again.
Take a guess: 32

Too low! Try again.

Take a guess: 33

Congratulations! You guessed the number in 9 attempts.