

## PRACTICAL 5

AIM: Create a Java program that simulates a guessing game, where the computer picks a random number between 1 and 100 and the user has to guess it. We can use the Scanner class to get user input and a loop to allow multiple guesses.

CODE:

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

public class prac5 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        Random random = new Random();

        int secretNumber = random.nextInt(100) + 1; // Generates a random number
        between 1 and 100
        int attempts = 0;
        boolean hasGuessedCorrectly = false;

        System.out.println("Welcome to the Guessing Game!");
        System.out.println("I have picked a number between 1 and 100. Try to
        guess it.");

        while (!hasGuessedCorrectly) {
            System.out.print("Enter your guess: ");
            int guess = scanner.nextInt();
            attempts++;

            if (guess == secretNumber) {
                hasGuessedCorrectly = true;
                System.out.println("Congratulations! You've guessed the number "
+ secretNumber + " correctly.");
                System.out.println("Number of attempts: " + attempts);
            } else if (guess < secretNumber) {
                System.out.println("Too low. Try again.");
            } else {
                System.out.println("Too high. Try again.");
            }
        }
        scanner.close();
    }
}
```

```
}
```

**OUTPUT:**

```
Welcome to the Guessing Game!
I have picked a number between 1 and 100. Try to guess it.
Enter your guess: 50
Too high. Try again.
Enter your guess: 40
Too high. Try again.
Enter your guess: 30
Too high. Try again.
Enter your guess: 10
Too low. Try again.
Enter your guess: 20
Too high. Try again.
Enter your guess: 15
Too high. Try again.
Enter your guess: 16
Too high. Try again.
Enter your guess: 11
Congratulations! You've guessed the number 11 correctly.
Number of attempts: 8
```

**CONCLUSION:**

The Java program provided is a simulation of a guessing game where the computer generates a random number between 1 and 100, and the user has to guess it. The program uses a while loop to allow multiple guesses until the user correctly guesses the number.