

# TASK 1

## NUMBER GAME

1. Generate a random number within a specified range, such as 1 to 100.
2. Prompt the user to enter their guess for the generated number.
3. Compare the user's guess with the generated number and provide feedback on whether the guess is correct, too high, or too low.
4. Repeat steps 2 and 3 until the user guesses the correct number.

You can incorporate additional details as follows:

5. Limit the number of attempts the user has to guess the number.
6. Add the option for multiple rounds, allowing the user to play again.
7. Display the user's score, which can be based on the number of attempts taken or rounds won.

### PROGRAM:

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

```
public class GuessTheNumberGame {  
  
    public static void main(String[] args) {  
        Scanner scanner = new Scanner(System.in);  
        Random random = new Random();  
        int lowerBound = 1;  
        int upperBound = 100;  
        int attemptsLimit = 5; // Limiting the number of attempts per game  
        int score = 0; // To keep track of rounds won
```

```
System.out.println("Welcome to Guess the Number Game!");

do {

    int generatedNumber = random.nextInt(upperBound - lowerBound + 1) +
lowerBound;

    System.out.println("\nI'm thinking of a number between " + lowerBound + " and " +
upperBound + ".");

    System.out.println("You have " + attemptsLimit + " attempts to guess it.");

    int attempts = 0;

    boolean guessedCorrectly = false;

    while (attempts < attemptsLimit && !guessedCorrectly) {

        System.out.print("\nEnter your guess: ");

        int userGuess = scanner.nextInt();

        attempts++;

        if (userGuess < generatedNumber) {

            System.out.println("Too low! Try again.");

        } else if (userGuess > generatedNumber) {

            System.out.println("Too high! Try again.");

        } else {

            System.out.println("Congratulations! You guessed the number " +
generatedNumber + " correctly!");

            score++;

            guessedCorrectly = true;

        }

    }

}
```

```

        if (!guessedCorrectly) {
            System.out.println("\nSorry, you've run out of attempts. The correct number was: "
+ generatedNumber);
        }

        System.out.print("\nDo you want to play again? (yes/no): ");
        String playAgain = scanner.next().toLowerCase();

        if (!playAgain.equals("yes")) {
            break;
        }

    } while (true);

    System.out.println("\nGame over! Your score is: " + score);
    System.out.println("Thanks for playing Guess the Number Game!");
    scanner.close();
}
}

```

## OUTPUT:

```

Welcome to Guess the Number Game!
I'm thinking of a number between 1 and 100.
You have 5 attempts to guess it.
Enter your guess: 2
Too low! Try again.
Enter your guess: 5
Too low! Try again.

```

Enter your guess: 35

Too high! Try again.

Enter your guess: 25

Too high! Try again.

Enter your guess: 15

Too high! Try again.

Sorry, you've run out of attempts. The correct number was: 7

Do you want to play again? (yes/no): no

Game over! Your score is: 0

Thanks for playing Guess the Number Game!

=== Code Execution Successful ===