Let's Play Rock Paper Scissors!

Rock-Paper-Scissors Game in Java

This program is a **console-based Rock-Paper-Scissors game**, where the **player competes against the computer**. The computer makes a random selection, and the game determines the winner based on the rules:

- ✅ **Rock beats Scissors**
- ✅ **Scissors beats Paper**
- ✅ **Paper beats Rock**

🚀 Features

- ✅ Supports **Rock, Paper, Scissors** choices
- ✅ **Randomized computer moves**
- ✅ **Looped gameplay** until the player decides to exit
- ✅ **Score tracking** (optional enhancement)

Source Code:→

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

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

    Random random = new Random();
    String[] choices = {"rock", "paper", "scissors"};

    while (true) {
      // Get user input
      System.out.print("\nEnter rock, paper, or scissors (or 'exit' to quit): ");

      String userChoice = scanner.nextLine().toLowerCase();

      // Exit condition
      if (userChoice.equals("exit")) {
        System.out.println("Thanks for playing! Goodbye!");
        break;
      }
```

```
        // Validate user input
        if (!userChoice.equals("rock") && !userChoice.equals("paper") &&
!userChoice.equals("scissors")) {

            System.out.println("Invalid choice! Please enter rock, paper, or
scissors.");
            continue;
        }

        // Computer's choice
        String computerChoice = choices[random.nextInt(3)];

        System.out.println("Computer chose: " + computerChoice);

        // Determine winner
        if (userChoice.equals(computerChoice)) {

            System.out.println("It's a tie!");
        }
       else if (
            (userChoice.equals("rock") &&
                computerChoice.equals("scissors")) ||

            (userChoice.equals("paper") &&
                computerChoice.equals("rock")) ||

            (userChoice.equals("scissors") &&
                computerChoice.equals("paper"))
        ) {
            System.out.println("You win! ");
        } else {
            System.out.println("You lose! ");
        }
    }

    scanner.close();
  }
}
```

- **How It Works**

1. The user enters "rock", "paper", or "scissors".
2. The computer **randomly selects** one of the three choices.
3. The program **compares the choices** and determines the winner.
4. The game runs in a **loop** until the user types "exit".

How does Random class work in Java:→

In Java, the Random class, located within the **java.util package**, is used to generate pseudo-random numbers of different data types like integers, doubles, floats, and longs, essentially providing a way to create seemingly unpredictable values within your program; you can create a Random object and use its methods to retrieve these random values based on a seed value that determines the sequence of generated numbers.

Key points about the Random class:

- **Purpose:** To generate random numbers for various applications like shuffling lists, simulating events, or creating randomized tests.
- **How it works:** The Random class uses a mathematical algorithm to produce a sequence of numbers that appear random but are actually based on an initial "seed" value.

Creating a Random object:

```
Random randomGenerator = new Random();
```

Common methods:

nextInt(int bound):	**Generates a random integer between 0 (inclusive) and bound (exclusive).**
nextDouble():	**Generates a random double value between 0.0 (inclusive) and 1.0 (exclusive).**
nextLong():	**Generates a random long integer.**
nextFloat():	**Generates a random float value**