Assignment # 3-Rock, Paper, and Scissors

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**Output:**

Given multiple choices and played the game against computer.

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

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Description automatically generated

**Console Output:**

\*\*\* Welcome to Rock, Paper & Scissors Game!\*\*\*

Here are the rules for the game:

1.Rock vs Scissors --> Rock breaks the Scissors..

2.Scissors vs Paper --> Scissors slices the Paper..

3.Paper vs Rock --> Paper Flods the Rock..

Same choice play again!!

Let's start the Game!

Enter your choice: 1 for Rock, 2 for Paper and 3 for Scissors:1

Your choice: Rock

Computer has Choosen: Paper

Paper Flods the Rock..

Computer wins! Better luck next time....

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Do you want to play another game? Then Enter Y: y

Enter your choice: 1 for Rock, 2 for Paper and 3 for Scissors:4

Invalid input! Try again!!

Enter your choice: 1 for Rock, 2 for Paper and 3 for Scissors:@

Invalid input! Try again!! Please number (1, 2 or 3):2

Your choice: Paper

Computer has Choosen: Scissors

Scissors slices the Paper..

Computer wins! Better luck next time....

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Do you want to play another game? Then Enter Y: y

Enter your choice: 1 for Rock, 2 for Paper and 3 for Scissors:3

Your choice: Scissors

Computer has Choosen: Rock

Rock breaks the Scissors

Computer wins! Better luck next time....

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Do you want to play another game? Then Enter Y: y

Enter your choice: 1 for Rock, 2 for Paper and 3 for Scissors:1

Your choice: Rock

Computer has Choosen: Rock

Same Choice made..It's a tie! play again!!

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Do you want to play another game? Then Enter Y: y

Enter your choice: 1 for Rock, 2 for Paper and 3 for Scissors:1

Your choice: Rock

Computer has Choosen: Scissors

Rock breaks the Scissors

Congratulations... You win!!!!

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Do you want to play another game? Then Enter Y: y

Enter your choice: 1 for Rock, 2 for Paper and 3 for Scissors:3

Your choice: Scissors

Computer has Choosen: Paper

Scissors slices the Paper..

Congratulations... You win!!!!

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Do you want to play another game? Then Enter Y: y

Enter your choice: 1 for Rock, 2 for Paper and 3 for Scissors:9

Invalid input! Try again!!

Enter your choice: 1 for Rock, 2 for Paper and 3 for Scissors:2

Your choice: Paper

Computer has Choosen: Scissors

Scissors slices the Paper..

Computer wins! Better luck next time....

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Do you want to play another game? Then Enter Y: no

Thanks for Playing..

**Source Code:**

package playGame;

import java.util.Scanner;

import java.util.Random;

public class PlayRockPaperScissors {

/\*CPSC 24500-001- Object-Oriented Programming

\* Assignment 3-Rock, Paper, and Scissors

\* This program plays the game of Rock, Paper and Scissors against the computer

\*/

public static void main(String[] args) {

//Welcome Banner & Rules of the game

System.out.print(" \*\*\* Welcome to Rock, Paper & Scissors Game!\*\*\*\n");

System.out.println("Here are the rules for the game:");

System.out.print("1.Rock vs Scissors --> Rock breaks the Scissors..\n2.Scissors vs Paper --> Scissors slices the Paper..");

System.out.print("\n3.Paper vs Rock --> Paper Flods the Rock..\n");

System.out.print("Same choice play again!!\nLet's start the Game!\n");

Scanner sc = new Scanner(System.in);

boolean playAgain = true;

while (playAgain) {

int userChoice = userChoice(sc);

//Randomly generated Computers choice & display the choice that computer made;

int computerChoice = generateComputerChoice();

// select the winner

selectWinner(userChoice, computerChoice);

// Ask the user if he/she wants to play again

System.out.print("\nDo you want to play another game? Then Enter Y: ");

String response = sc.next();

if (!response.equalsIgnoreCase("Y")) {

playAgain = false;

}

}

if (playAgain == false)

System.out.print("\nThanks for Playing..");

}

public static int userChoice(Scanner sc)

{

int choice = 0;

while (choice < 1 || choice > 3) {

System.out.print("\nEnter your choice: 1 for Rock, 2 for Paper and 3 for Scissors:");

while (!sc.hasNextInt()) {

System.out.print("Invalid input! Try again!! Please number (1, 2 or 3):");

sc.next();

}

choice = sc.nextInt();

if (choice < 1 || choice > 3) {

System.out.print("Invalid input! Try again!! \n");

}

}

return choice;

}

public static int generateComputerChoice() {

Random random = new Random();

return random.nextInt(3) + 1;

}

public static void selectWinner(int userChoice, int computerChoice) {

System.out.println("Your choice: "+displayChoice(userChoice));

System.out.println("Computer has Choosen: "+displayChoice(computerChoice));

showTheRule(computerChoice,userChoice);

if (userChoice == computerChoice) {

System.out.print("\nSame Choice made..It's a tie! play again!!\n");

} else if ((userChoice == 1 && computerChoice == 3) ||

(userChoice == 2 && computerChoice == 1) ||

(userChoice == 3 && computerChoice == 2)) {

System.out.print("Congratulations... You win!!!!\n");

} else {

System.out.print("Computer wins! Better luck next time....\n");

}

System.out.println("-------------------------------------------");

}

//Shows the rule determined for the chosen option

public static void showTheRule(int userChoice, int computerChoice) {

if((userChoice == 1 && computerChoice == 3) ||(userChoice == 3 && computerChoice == 1))

{

System.out.println("\nRock breaks the Scissors");

}

else if ((userChoice == 2 && computerChoice == 1) || (userChoice == 1 && computerChoice == 2) )

{

System.out.println("\nPaper Flods the Rock..");

}

else if((userChoice == 3 && computerChoice == 2) || (userChoice == 2 && computerChoice == 3))

{

System.out.println("\nScissors slices the Paper..");

}

else

{

System.out.print("");

}

}

//Getting choice name from the selected number

public static String displayChoice(int number)

{

String chosenOption = "";

if( number == 1 ){

chosenOption = "Rock";

}else if( number == 2 ){

chosenOption = "Paper";

}else if( number == 3 ){

chosenOption = "Scissors";

}

return chosenOption;

}

}