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Module 3

```
import java.util.Scanner; // allows user to enter information
import java.util.Random; //allows computer to generate random numbers

class RockPaperScissors { //class is our blueprint which represents our game of rock
paper scissors
    public static void main(String[] args) { //this will start the java program,
which is our main method
        try (Scanner inputscanner = new Scanner(System.in)) { //this will read input
from user
            Random random = new Random(); //we will use this to
generate the random numbers

            System.out.println("Ready to play Rock Paper Scissors?"); // Introduce
game to user
            System.out.println("1=Rock, 2= Paper, 3=Scissors."); // this
explains how user inputs information to play game

            int computerChoice = random.nextInt(3) + 1; // computer chooses
number between 1 and 3

            System.out.print("Your Turn: "); // User gets
message it is their turn
            int userChoice = inputscanner.nextInt(); // stores user
input

            System.out.println("Computer's Turn: " + convertToChoice(computerChoice));
//computer converts if rock paper or scissors based on number entered
            System.out.println("Your Turn: " + convertToChoice(userChoice));
//users input is converted

            String result = WinnerChosen(computerChoice, userChoice); //
results calculated
            System.out.println(result); //
results displayed
        }
    }

    public static String convertToChoice(int choice) { //
correctly identifies choices that can be entered, if number outside of 1 to 3 is
entered error will be shown
        switch (choice) { //
switch helps to organize possible cases
            case 1: //
option for selecting Rock
                return "Rock";
            case 2: //
option for selecting Paper
                return "Paper";
            case 3: //
option for selecting Scissors
                return "Scissors";
            default:
                return "Input not Valid"; //
numbers not 1-3 entered will be invalid
        }
    }
}
```

```
rockpaperscissors.java X
Users > candice > J rockpaperscissors.java > % RockPaperScissors > Q) convertToChoice(int)
1 import java.util.Scanner; // allows user to enter information
2 import java.util.Random; //allows computer to generate random numbers
3
4 class RockPaperScissors { //class is our blueprint which represents our game of rock paper scissors
5     public static void main(String[] args) { //this will start the java program, which is our main method
6         Scanner inputScanner = new Scanner(System.in); //this will read input from user
7         Random random = new Random(); //we will use this to generate the random numbers
8
9         System.out.println("Ready to play Rock Paper Scissors?"); // introduce game to user
10        System.out.println("Rock, 2= Paper, 3=Scissors."); // this explains how user inputs information to play game
11
12        int computerChoice = random.nextInt(3) + 1; // computer chooses number between 1 and 3
13
14        System.out.println("Your Turn "); // User gets message it is their turn
15        int userChoice = inputScanner.nextInt(); // stores user input
16
17        System.out.println("Computer's Turn " + convertToChoice(computerChoice)); //computer converts if rock paper or scissors based on number entered
18        System.out.println("Your Turn " + convertToChoice(userChoice)); //users input is converted
19
20        String result = WinnerChosen(computerChoice, userChoice); // results calculated
21        System.out.println(result); // results displayed
22    }
23
24    public static String convertToChoice(int choice) { // correctly identifies choices that can be entered, if number outside of 1 to 3 is entered error will be shown
25        switch (choice) { // switch helps to organize possible cases
26            case 1: // option for selecting Rock
27                return "Rock";
28            case 2: // option for selecting Paper
29                return "Paper";
30            case 3: // option for selecting Scissors
31                return "Scissors";
32            default: // numbers not 1-3 entered will be invalid
33                return "Input not Valid";
34        }
35    }
36
37    public static String WinnerChosen(int computer, int user) { // computer and user input are compared to determine outcome of game by using if and else statements
38        if (computer == user) { // option for a tie
39            return "Game is Tied!";
40        } else if ((computer == 1 & user == 3) || (computer == 2 & user == 1) || (computer == 3 & user == 2)) { // else all other scenarios are shown
41            return "Computer has won this time!"; // option for computer to win game
42        } else {
43            return "You have won the Game!"; // else user wins
44        }
45    }
46 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

candice@candices-Pac ~ % ./src/bin/new /Library/Java/JavaVirtualMachines/jdk-21.jdk/Contents/Home/bin/java -XX:-ShowCodeDetails2ndExceptionMessages -cp ./private/var/folders/jg/2ymzy5c2b37y6kbykj:0000jn/7/vscodews_e6218/jdt_wd/jdt.ls-java-project/bin RockPaperScissors

Ready to play Rock Paper Scissors?

Rock, 2= Paper, 3=Scissors.

Your Turn 1

Computer's Turn: Scissors

Your Turn: Scissors

Game is Tied!

candice@candices-Pac ~ %

Ln 32, Col 21 Space 4 UTF-8 LF 1 Java