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

/**
 * Rock Paper Scissors Game - Blueprint Class
 *
 * @author Jasur Shukurov
 * @version Version 3.1
 * @version 12/12/2018
 */


public class Player {

    // Initializing variables
    private static int wins = 0;
    private static int losses = 0;
    private static int ties = 0;

    private static boolean stop = false;

    private static Scanner scn = new Scanner(System.in);

    /*
     * determineWinner - method which finds who won the game
     *
     * @param p1 - player1 choise
     * @param p2 - player2 choice
     *
     */

    public static String determineWinner(String p1, String p2) {
        if (p1.equalsIgnoreCase(p2)) {
            ties();
            return "Draw!";
        } else if ((p1.equalsIgnoreCase("rock") && p2.equalsIgnoreCase("scissors"))
                || (p1.equalsIgnoreCase("paper") && p2.equalsIgnoreCase("rock"))
                || (p1.equalsIgnoreCase("scissors") && p2.equalsIgnoreCase("paper"))) {
            wins();
            return "Congratulation Player 1 won!";
        } else {
            losses();
            return "Oh, sorry Player 2 won!";
        }

    }

    /*
     * ties - method which adds one to ties Statistics
     */
    private static void ties() {
        ties++;

    }

    /*
     * losses - method which adds one to losses Statistics
     */
    private static void losses() {
        losses++;

    }

    /*
     * wins - method which adds one to wins Statistics
     */
    private static void wins() {
        wins++;

    }

    /*
     * printStats() - this method generates game statistics
     *
     * @return String, returns game statistics
     *
     */
    public static String printStats() {

```

```
81          return "\nYour Statistics:\nTies: " + ties + "\nWins: " + wins + "\nLosses: " + losses;
82
83      }
84
85      /*
86       * readUserChoice() - this method reads user input
87       *
88       * @return String, returns user input
89       *
90       */
91      public static String generateComputerChoice() {
92          Random rnd = new Random();
93          int player2 = rnd.nextInt(3) + 1;
94
95          if (player2 == 1) {
96              return "rock";
97          } else if (player2 == 2) {
98              return "paper";
99          } else {
100             return "scissors";
101         }
102
103     }
104
105     /*
106      * readUserChoice() - this method reads user input
107      *
108      * @return String, returns user input
109      *
110      */
111     private static String readUserChoice() {
112
113         System.out.println("Please type rock, paper or scissors: ");
114         String player1 = scn.nextLine();
115
116         while (!valid(player1)) {
117             System.out.println("Invalid input, please try again: ");
118             player1 = scn.nextLine();
119         }
120
121         return player1;
122
123     }
124
125     /*
126      * valid() - this method checks if user input is valid or not.
127      *
128      * @return boolean, if user input is valid it returns true, otherwise it
129      * returns false
130      *
131      */
132     private static boolean valid(String player1) {
133
134         switch (player1.toLowerCase()) {
135         case "rock":
136             return true;
137         case "scissors":
138             return true;
139         case "paper":
140             return true;
141         default:
142             return false;
143         }
144
145     }
146
147     /*
148      * playAgain() - method which asks from user, does s(he) want to play again
149      * ?
150      *
151      */
152     private static void playAgain() {
153         System.out.println("Do you want to play again? ");
154         String userInput = scn.nextLine();
155         if (userInput.equalsIgnoreCase("No")) {
156             stop = true;
157         }
158     }
159
160     /*
```

```java
     * choosingType() - method which asks user to choose what type of game (s)he
     * wants to play. It can be Human agains Human, Computer vs Human or
     * Computer against Computer.
     *
     * @return int, it returns user choice
     */
    public static int choosingType() {

        int type = scn.nextInt();
        scn.nextLine();
        while (type < 1 || type > 3) {
            System.out.println("You typed invalid value, please try again!");
            type = scn.nextInt();
            scn.nextLine();
        }

        return type;

    }

    /*
     * start() - is method which starts game
     */
    public String start() {

        int type = choosingType();

        if (type == 1)
            return playerVsComputer();// player agains computer
        else if (type == 2)
            return playerVsPlayer();// player agains player
        else
            return computerVsComputer();// computer against computer

    }

    /*
     * computerVsComputer() - computer plays against computer
     */
    private static String computerVsComputer() {

        while (stop == false) {
            playComputerAgainstComputer();
            playAgain();
        }

        return printStats();
    }

    /*
     * playComputerAgainstComputer()
     *
     * @return String
     */
    public static void playComputerAgainstComputer() {
        String player1 = generateComputerChoice();
        String player2 = generateComputerChoice();

        System.out.println("Computer 1 chose - " + player1);
        System.out.println("Computer 2 chose - " + player2);

        String winner = determineWinner(player1, player2);

        System.out.println(winner);
    }

    /*
     * playerVsPlayer() - method to play against another player
     */
    private static String playerVsPlayer() {

        while (stop == false) {
            playAgainstPlayer();
            playAgain();
        }
        return printStats();
    }

    /*
     * playAgainstPlayer()
```

```
241     *
242     * @return String
243     *
244     */
245    public static void playAgainstPlayer() {
246        String player1 = readUserChoice();
247        String player2 = readUserChoice();
248        String winner = determineWinner(player1, player2);
249
250        System.out.println(winner);
251    }
252
253    /*
254     * playerVsComputer() - method to play against computer
255     *
256     */
257    private static String playerVsComputer() {
258        while (stop == false) {
259            playAgainstComputer();
260            playAgain();
261        }
262        return printStats();
263    }
264
265    /*
266     * playAgainstComputer()
267     *
268     * @return String
269     *
270     */
271    public static void playAgainstComputer() {
272        String player1 = readUserChoice();
273        String player2 = generateComputerChoice();
274        System.out.println("Computer chose - " + player2);
275        String winner = determineWinner(player1, player2);
276
277        System.out.println(winner);
278    }
279
280    /*
281     * printInstruction() - returns instrution
282     *
283     * @return String
284     */
285    public String printInstruction() {
286        String instruction = "Instruction!!!\nPlease type \n1 if you want play against Computer\n2 "
287                + "to play against another Player \n3 to Computer play against Computer!\n";
288        return instruction;
289
290    }
291
292}
293
```