Stone Paper Scissors

Objective :

Create a rock-paper-scissors API using Nodejs. The specifics of the

application are given below :-

API : /game/start

METHOD: GET

Rules -

● Paper beats Rock

● Rock beats Scissors

● Scissors beats Paper

1) All user input values are going to be generated via random numbers. No need

for a user input mechanism.

2) It will be a 4 player game.

3) Each player will randomly choose either of the three (Rock, Paper or

Scissors). Calculate the results for each player in respect to every

other player based on the choices made.

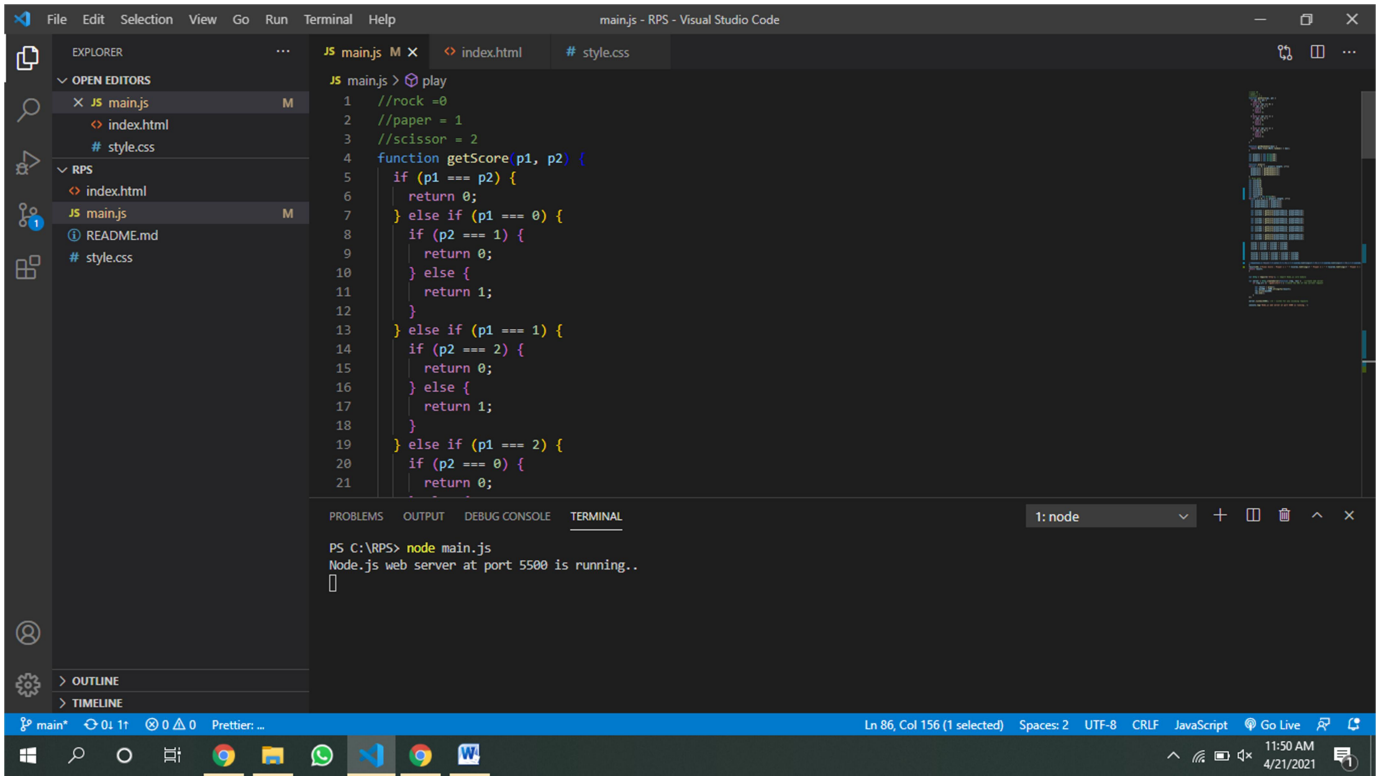
4) The above should be repeated 50 times.

5) Return a JSON response with the results of each iteration.

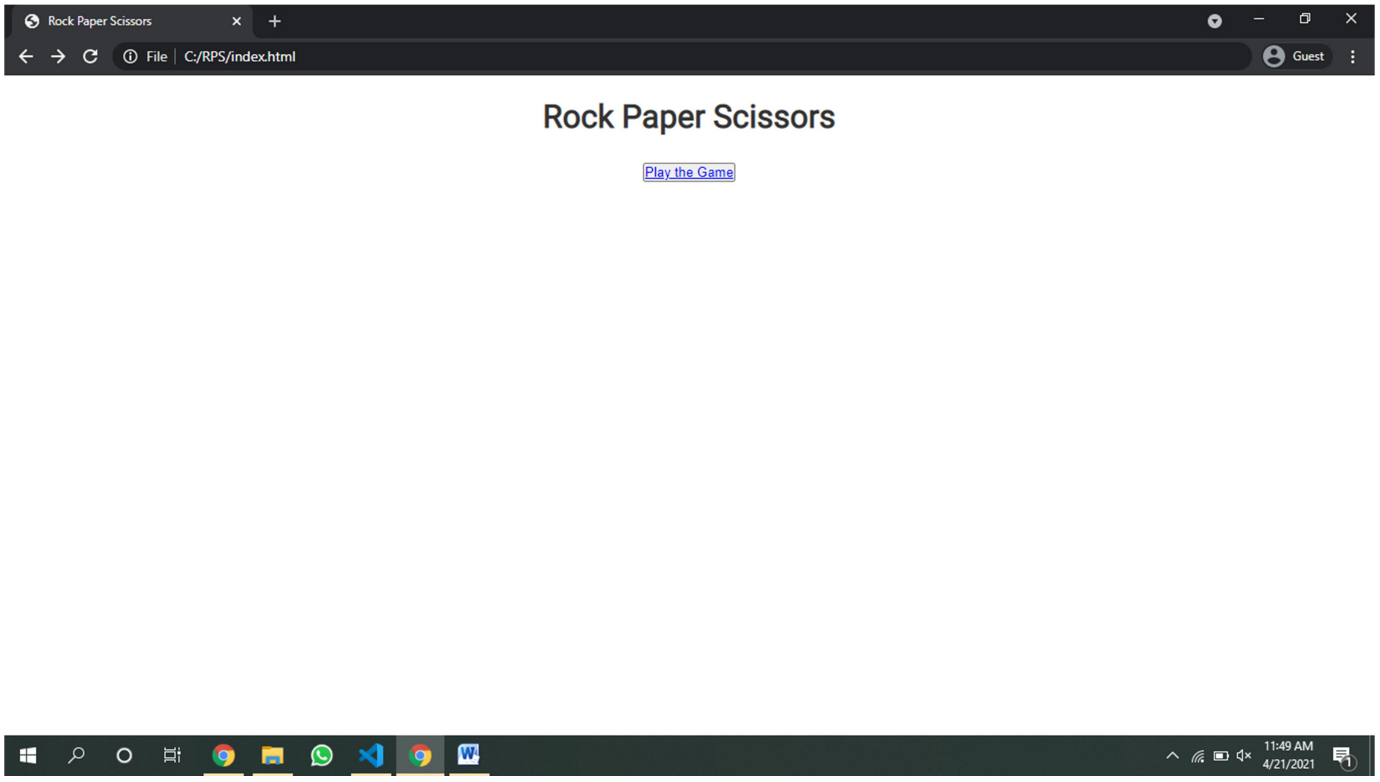
I have made a Node.JS application which does the same

Here are some screenshots of the same application hosted on my localhost.

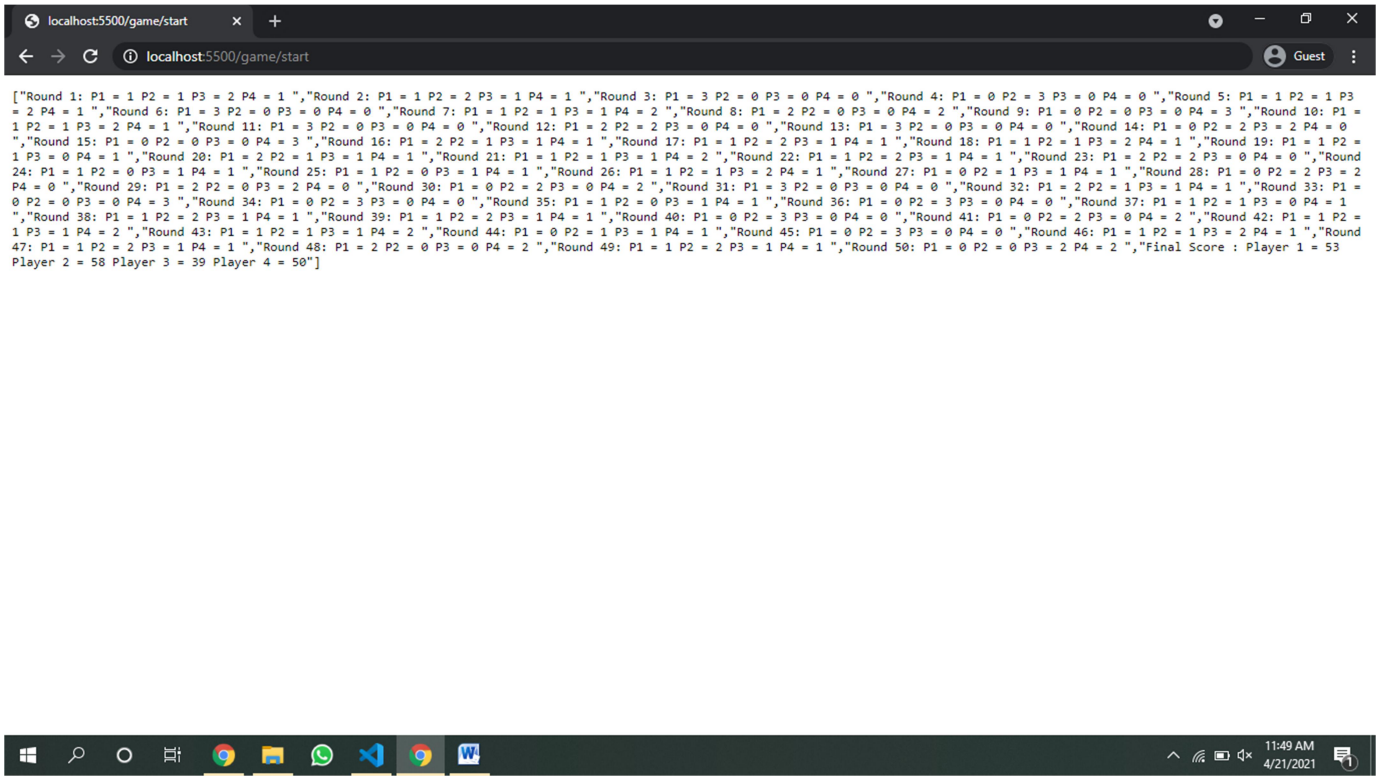
Terminal running the application :



Index Page :



LocalHost Hosting the game:



I made sure I followed all the rules

Rule 1:

All user input values are going to be generated via random numbers. No need

for a user input mechanism.

Solution :

I used the Math.random() function to take user input

```
27
28  var player1 = new Array(50);
29  var player2 = new Array(50);
30  var player3 = new Array(50);
31  var player4 = new Array(50);
32  function getRandomInt(max) {
33    return Math.floor(Math.random() * max);
34  }
35
36  function play(){
37  for(var i = 0; i < player1.length; i++){
38    player1[i] = getRandomInt(3);
39    player2[i] = getRandomInt(3);
40    player3[i] = getRandomInt(3);
41    player4[i] = getRandomInt(3);
42  }
```

Rule 2:

It will be a 4 player game.

Solution :

I used 4 Players

```
var player1 = new Array(50);
var player2 = new Array(50);
var player3 = new Array(50);
var player4 = new Array(50);
```

Rule 3:

Each player will randomly choose either of the three (Rock, Paper or Scissors). Calculate the results for each player in respect to every other player based on the choices made

Solution :

I calculated the result based on choices made by all players(Random function)

```
var score12 = getScore(player1Choice, player2Choice);
var score13 = getScore(player1Choice, player3Choice);
var score14 = getScore(player1Choice, player4Choice);

var score21 = getScore(player2Choice, player1Choice);
var score23 = getScore(player2Choice, player3Choice);
var score24 = getScore(player2Choice, player4Choice);

var score31 = getScore(player3Choice, player1Choice);
var score32 = getScore(player3Choice, player2Choice);
var score34 = getScore(player3Choice, player4Choice);

var score41 = getScore(player4Choice, player1Choice);
var score42 = getScore(player4Choice, player2Choice);
var score43 = getScore(player4Choice, player3Choice);
```

Rule 4:

The above should be repeated 50 times.

Solution :

I made a loop to run 50 times (the length of player array i.e.. 50)

```
for(var i = 0; i <= player1.length; i++){
```

Rule 5:

Return a JSON response with the results of each iteration

Solution :

I stored the results in a string array and then parsed it into JSON and written it to the response

```
var server = http.createServer(function (req, res) {   //create web server
    if (req.url == '/game/start') { //check the URL of the current request

      var result = play();
      var myJSON = JSON.stringify(result);
      res.write(myJSON)
      res.end();
    }
});
```