UCS1601-INTERNET PROGRAMMING

EXERCISE: **NAME: V SREEDHAR**

DATE: 09.03.2021   **REGNO: 185001161**

Exercise 3: JavaScript event handling mechanisms, DOM

<u>Learning Objectives:</u>

Generate a registration form for a hospital to register new patient details as below:

   a. Assign a title for the registration form(TextView- textSize, textStyle , typeface)
   b. Name. Specify some font and colour. (text, onfocus, onblur, oninvalid)
   c. Address (textarea, onselect)
   d. Age (onkeypress)
   e. Date of Birth (date)
   f. Gender (RadioButton)
   g. Marital Status (select, onchange)
   h. Contact Number (oninvalid)
   i. Addiction (text area, use drag and drop from a list-select)
   j. Display a digital clock on the top right corner of the webpage
   k. Submit (Button, onclick create a new page and display the contents in table format)
   l. Reset (Button, onclick)

Validate the form elements. Ex: Name should be only alphabet, address only alpha-numeric character. "required" for all fields etc.

Write a JS program to develop a memory matching game.
a. Display a timer, Score card.
b. Arrange even number of pairs. (Minimum 5)

c. Shuffle the cards, face down, in rows.

d. Score card changes whenever a pair is found.

e. On click a card, it should flip (event handling).

f. When a match is found, remove the cards using DOM.

g. Set 3 levels.

h. When the player moves to next level, set a new timer with less time duration.

i. Mandatory concepts – Event handling, DOM.

Program:

(HTML file index.html)

```html
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width">
    <title>Welcome</title>
  <link rel="stylesheet" href="game_style.css">
    <script src="game_script.js"></script>
  <style>
  </style>
  </head>

  <body background="bg.jpg">
    <br><br><br>
    <h1 style="text-align: center;color: #dddddd;"><i>Welcome,This is the index page</i></h1>
    <br><br>
    <div class="flip-card">
        <div class="flip-card-inner">
          <div class="flip-card-front">
            <img src="form.png" alt="Avatar" style="width: 200px;height:200px;">
          </div>
          <div class="flip-card-back" onclick="location.href='registration.html'" >
            <h2>Registration Forms</h2>
            <p>Complete your form for admission</p>
            <p>Click here to proceed</p>
          </div>
        </div>
    </div>
    <br><br><br><br>
    <div class="flip-card">
        <div class="flip-card-inner">
          <div class="flip-card-front">
            <img src="game.png" alt="Avatar" style="width:200px;height:200px;">
```

```html
          </div>
          <div class="flip-card-back" onclick="location.href='game.html'">
            <h2>Memory Matching Game</h2>
            <p>Adorn Your Life with game</p>
            <p>Click here </a>to proceed</p>
          </div>
        </div>
      </div>

  </body>
</html>
```

(HTML file Registration.html)

```html
<html>
    <head>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width">
        <title>Registration Page</title>
        <link href="style.css" rel="stylesheet" type="text/css"/>
        <script src="script.js"></script>
        <style>
        #div1, #div2 {
        float: left;
        width: 150px;
        height: 150px;
        margin: 10px;
        padding: 5px;
        border: 2px solid black;
        background-color: rgb(188, 224, 228);
        }
        select:invalid { color: gray; }
        input[type=text]:focus {
        background-color: lightblue;
        }
        input[type=text] {
        width: 40%;
        padding: 12px 20px;
        margin: 8px 0;
        box-sizing: border-box;
        }
        select{
            width: 40%;
            padding: 16px 20px;
            border: none;
            border-radius: 4px;
            background-color: #f4f9f9;
        }
        fieldset{
            background-color: #ccf2f4
        }
```

```html
        legend {
        background-color: gray;
        color: white;
        padding: 5px 10px;
        }
        div {
        float: left;
        padding: 15px;
        }
        input {
        margin: 5px;
        }
        </style>
    </head>
    <body onload="startTime()">
        <div id="txt" class="div1" style="position:absolute;top:0px;right:0px;"></div>
    <br><br>
        <form action="#" width="40%" method="post" target="_blank">
            <fieldset>
                <legend>Hospital Registration form:</legend>
                <label for="name">First name:</label>
                <input type="text" id="name" name="name" pattern ="[A-Za-z ]{1,32}"onblur="this.checkValidity();" onfocus="this.placeholder='';" placeholder="Your name.." oninvalid="alert('Name is invalid');"><br><br>
                <label for="address">Address:</label>
                <input type="text" id="address" name="address" pattern ="[A-Za-z0-9\/\.:]{1,100}"onblur="this.checkValidity();remv();" oninvalid="alert('Address is invalid')"; onfocus="this.placeholder='';" placeholder="Your address.." onselect="myFunction();"><br><br>
                <p id="addr_rule"></p>
                <label for="age">Age:</label>
                <input type="number" id="age" name="age"value="0" min="0" max="100" onkeypress="alert('Please use the navigators!');"><br><br>
                <label for="birthday">Birthday:</label>
                <input type="date" id="birthday" name="birthday"><br><br>
                <input type="radio" id="male" name="gender" value="Male">
                <label for="male">Male</label><br><br>
                <input type="radio" id="female" name="gender" value="Female">
                <label for="female">Female</label><br><br>
                <input type="radio" id="other" name="gender" value="Other">
                <label for="other">Other</label><br><br>
                <label for="mstat">Marital Status:</label>
                <select name="mstat" id="mstat" onchange="alert('Are you willing to change the previously selected value');"> <br>
                    <option value="" disabled selected hidden>Select your option</option>
                    <option value="Single">Single </option>
                    <option value="Married">Married</option>
                </select><br><br><br>
```

```html
            <label for="num">Contact Number:</label>
            <input type ="tel" name="num" id="num" pattern="[0-
9]{10}" oninvalid="alert('Please enter a valid phone number');"><br><br>
            <label for="add">Addiction(drag and drop) :</label><br><br><br><br>
            <div id="div1" ondrop="drop(event)" ondragover="allowDrop(event)">
              <ul>
              <li draggable="true" ondragstart="drag(event)" id="drag1">Alcohol<
/li>

              <br><br><br>
              <li draggable="true" ondragstart="drag(event)" id="drag2">Nicotic
drugs</li>

              </ul>
            </div>
            <div id="div2" ondrop="drop(event)" ondragover="allowDrop(event)"></
div>

            <br><br><br><br><br><br><br><br><br><br>
            <input type="submit" value="Submit" onclick="display_table();">
            <input type="reset" value="Reset" onclick="drag_reset();">

          </fieldset>
        </form>
    </body>
</html>
```

(HTML file game.html)

```html
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width">
    <title>Welcome</title>
    <link rel="stylesheet" href="game_style.css">
  </head>
  <body background="gamebg.jpg">
    <h2 id ="test" style="color: white;"></h2>
    <h2 id = "score" style="color: white;"></h2>
    <p id="steps" style="color: white;"></p>
    <h1 id="over" style="color: white;"></h1>
    <div class="board">
      <div class="card-inner" id ="1">
        <div class="card-front">
          <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
        <div class="card-back">
          <img src="1.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
      </div>
      <div class="card-inner"id ="2"  >
        <div class="card-front">
          <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
```

```
      </div>
      <div class="card-back">
        <img src="2.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
    </div>
    <div class="card-inner"id ="3"  >
      <div class="card-front">
        <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
      <div class="card-back">
        <img src="3.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
    </div>
    <div class="card-inner"id ="4"  >
      <div class="card-front">
        <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
      <div class="card-back">
        <img src="4.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
    </div>
    <div class="card-inner"id ="5"  >
      <div class="card-front">
        <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
      <div class="card-back">
        <img src="5.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
    </div>
    <div class="card-inner"id ="6"  >
      <div class="card-front">
        <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
      <div class="card-back">
        <img src="6.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
    </div>
    <div class="card-inner"id ="7"  >
      <div class="card-front">
        <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
      <div class="card-back">
        <img src="7.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
    </div>
    <div class="card-inner"id ="8"  >
      <div class="card-front">
        <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
      </div>
      <div class="card-back">
        <img src="8.png" alt="Avatar" style="width: 100px;height:100px;">
```

```html
        </div>
      </div>
      <div class="card-inner"id ="9"  >
        <div class="card-front">
          <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
        <div class="card-back">
          <img src="1.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
      </div>
      <div class="card-inner"id ="10"  >
        <div class="card-front">
          <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
        <div class="card-back">
          <img src="1.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
      </div>
      <div class="card-inner"id ="11"  >
        <div class="card-front">
          <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
        <div class="card-back">
          <img src="1.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
      </div>
      <div class="card-inner" id ="12" >
        <div class="card-front">
          <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
        <div class="card-back">
          <img src="1.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
      </div>
      <div class="card-inner"id ="13"  >
        <div class="card-front">
          <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
        <div class="card-back">
          <img src="1.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
      </div>
      <div class="card-inner"id ="14"  >
        <div class="card-front">
          <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
        <div class="card-back">
          <img src="1.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
      </div>
      <div class="card-inner"id ="15"  >
```

```html
        <div class="card-front">
          <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
        <div class="card-back">
          <img src="1.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
      </div>
      <div class="card-inner"id ="16"  >
        <div class="card-front">
          <img src="cover.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
        <div class="card-back">
          <img src="1.png" alt="Avatar" style="width: 100px;height:100px;">
        </div>
      </div>
    </div>
  </div>
    <script src="game_script.js">
    </script>
  </body>
</html>
```

(HTML file game_script.js)

```javascript
var array = [1,2,3,4,5,6,7,8,1,2,3,4,5,6,7,8];
var select = [-1,-1];
var id = [-1,-1];
var score =0;
var time =100;
var moves = 0;
var match = 0;
var level = 1;
function eve(){
    document.getElementById("1").addEventListener("click",function()
    {
        document.getElementById("1").style.transform="rotateY(-180deg)";
        cal(1);
    });
    document.getElementById("2").addEventListener("click",function()
    {
        document.getElementById("2").style.transform="rotateY(-180deg)";
        cal(2);
    });
    document.getElementById("3").addEventListener("click",function()
    {
        document.getElementById("3").style.transform="rotateY(-180deg)";
        cal(3);
    });
    document.getElementById("4").addEventListener("click",function()
    {
        document.getElementById("4").style.transform="rotateY(-180deg)";
        cal(4);
```

```javascript
    });
    document.getElementById("5").addEventListener("click",function()
    {
        document.getElementById("5").style.transform="rotateY(-180deg)";
        cal(5);
    });
    document.getElementById("6").addEventListener("click",function()
    {
        document.getElementById("6").style.transform="rotateY(-180deg)";
        cal(6);
    });
    document.getElementById("7").addEventListener("click",function()
    {
        document.getElementById("7").style.transform="rotateY(-180deg)";
        cal(7);
    });
    document.getElementById("8").addEventListener("click",function()
    {
        document.getElementById("8").style.transform="rotateY(-180deg)";
        cal(8);
    });
    document.getElementById("9").addEventListener("click",function()
    {
        document.getElementById("9").style.transform="rotateY(-180deg)";
        cal(9);
    });
    document.getElementById("10").addEventListener("click",function()
    {
        document.getElementById("10").style.transform="rotateY(-180deg)";
        cal(10);
    });
    document.getElementById("11").addEventListener("click",function()
    {
        document.getElementById("11").style.transform="rotateY(-180deg)";
        cal(11);
    });
    document.getElementById("12").addEventListener("click",function()
    {
        document.getElementById("12").style.transform="rotateY(-180deg)";
        cal(12);
    });
    document.getElementById("13").addEventListener("click",function()
    {
        document.getElementById("13").style.transform="rotateY(-180deg)";
        cal(13);
    });
    document.getElementById("14").addEventListener("click",function()
    {
        document.getElementById("14").style.transform="rotateY(-180deg)";
        cal(14);
    });
```

```javascript
        document.getElementById("15").addEventListener("click",function()
        {
            document.getElementById("15").style.transform="rotateY(-180deg)";
            cal(15);
        });
        document.getElementById("16").addEventListener("click",function()
        {
            document.getElementById("16").style.transform="rotateY(-180deg)";
            cal(16);
        });
}
eve();
var myVar;
myVar = setInterval(timer, 1000);
function init(){
    for (var i=0;i< array.length; i++) {
        var j = Math.floor(Math.random() * (i + 1));
        var temp = array[i];
        array[i] = array[j];
        array[j] = temp;
    }
    document.getElementById("over").style.visibility="hidden";
    for(var i=1;i<17;i++)
    {
        document.getElementById(i).style.visibility="visible";
        document.getElementById(i).lastElementChild.firstElementChild.src=array[i-
1]+'.png';
    }
}
function timer(){
    document.getElementById("test").innerHTML="Time :"+time;
    document.getElementById("score").innerHTML="Score :"+score;
    document.getElementById("steps").innerHTML="Steps :"+moves;
    time--;
    if(time<=0)
    {
        document.getElementById("over").style.visibility="visible";
        document.getElementById("test").style.visibility="hidden";
        document.getElementById("over").innerHTML="Game Over\n Refresh to play aga
in";
        for(var i=1;i<17;i++)
        {
            document.getElementById(i).style.visibility="hidden";
        }
        setTimeout(function(){clearInterval(myVar);},5000);
    }
}
function cal(i)
{
    moves++;
    if(select[0]!=-1 && select[1]!=-1)
```

```javascript
    {
        document.getElementById(i).style.transform='rotateY(0deg)';
        return;
    }

    if(select[0]==-1)
    {
        select[0]=array[i-1];
        id[0] = i;
    }
    else if(select[1]==-1 && i!=id[0])
    {
        select[1]=array[i-1];
        id[1]=i;
        setTimeout(eval,1000);
    }
}
function reset(){
        window.alert("Level :"+level+"\nGame Over\nYour Score is "+score);
        match=0;
        moves=0;
        level++;
        for(var i=1;i<17;i++)
        {
            document.getElementById(i).style.transform='rotateY(0deg)';
        }
        if(level==2)
        {
            time=70;
        }
        if(level==3)
        {
            time=50;
        }
        if(level==4)
        {
            document.getElementById("over").style.visibility="visible";
            document.getElementById("test").style.visibility="hidden";
            document.getElementById("over").innerHTML="Game Over\n Refresh to play
    again";
            for(var i=1;i<17;i++)
            {
                document.getElementById(i).style.visibility="hidden";
            }
            setTimeout(function(){clearInterval(myVar);},5000);
        }
        clearInterval(myVar);
        myVar = setInterval(timer, 1000);
        select =[-1,-1];
        id=[-1,-1];
        init();
```

```
}
function eval()
{
    if(select[0]==select[1])
    {
        score+=50;
        match++;
        document.getElementById(id[0]).style.visibility="hidden";
        document.getElementById(id[1]).style.visibility="hidden";
        select =[-1,-1];
        id=[-1,-1];
    }
    else
    {
        score-=10;
        document.getElementById(id[0]).style.transform='rotateY(0deg)';
        document.getElementById(id[1]).style.transform='rotateY(0deg)';
        select =[-1,-1];
        id=[-1,-1];
    }
    if(match==8)
    {
        reset();
    }
}
init();
```

(HTML file game_style.css)

```css
*{box-sizing: border-box;}
.button {
    background-color: red;
    border: none;
    color: white;
    padding: 100px 50px;
    text-align: center;
    margin-left: auto;
    margin-right: auto;
    text-decoration: none;
    display: inline-block;
    font-size: 16px;
    box-shadow: 0 12px 16px 0 rgba(0,0,0,0.24), 0 17px 50px 0 rgba(0,0,0,0.19);
}
.flip-card {
    background-color: transparent;
    margin: auto;
    width: 200px;
    height: 220px;
    perspective: 1000px;
}
```

```css
.flip-card-inner {
  width: 100%;
  height: 100%;
  text-align: center;
  transition: transform 0.8s;
  transform-style: preserve-3d;
}


.flip-card:hover .flip-card-inner {
  transform: rotateY(180deg);
}

.flip-card-front, .flip-card-back {
  position: absolute;
  width: 100%;
  height: 100%;
  cursor: pointer;
  -webkit-backface-visibility: hidden;
  backface-visibility: hidden;
}

.flip-card-front {
  background-color:transparent;
  color: black;
}

.flip-card-back {
  background-color: dodgerblue;
  color: white;
  transform: rotateY(180deg);
}
body{
  text-align: center;
}
.board{
    background-color: transparent;
    margin: auto;
    width: 50%;
    display: inline-block;
    flex-wrap: wrap;
    align-content: center;
  }
.card-inner{
  width: 100px;
  height: 100px;
  display: inline-block;
  margin: 30px;
  transition: transform 0.5s;
  transform-style: preserve-3d;
```

```css
      perspective: 1000px;
  }
  .card-front,.card-back{
    position: absolute;
    width: 100%;
    height: 100%;
    cursor: pointer;
    backface-visibility: hidden;
    background-color:transparent;
  }
  .card-back{
    transform: rotateY(180deg);
  }
```

(HTML file script.js)

```javascript
function startTime() {
    var today = new Date();
    var h = today.getHours();
    var m = today.getMinutes();
    var s = today.getSeconds();
    h = addzero(h);
    m = addzero(m);
    s = addzero(s);
    document.getElementById('txt').innerHTML =
    h + ":" + m + ":" + s;
    var t = setTimeout(startTime, 500);
  }
  function addzero(a)
  {
    if(a<10)
      return "0"+a;
    return a;
  }
  function myFunction() {
    document.getElementById("addr_rule").innerHTML = "Please enter a valid address
!";
  }
  function remv() {
    document.getElementById("addr_rule").innerHTML = "";
  }
  function allowDrop(ev) {
    ev.preventDefault();
  }

  function drag(ev) {
    ev.dataTransfer.setData("text", ev.target.id);
  }

  function drop(ev) {
```

```javascript
        ev.preventDefault();
        var data = ev.dataTransfer.getData("text");
        ev.target.appendChild(document.getElementById(data));
    }

    function drag_reset()
    {
        document.getElementById('div1').innerHTML+=document.getElementById('div2').inn
erHTML;
        document.getElementById('div2').innerHTML='';
    }

    function display_table() {
    var name=document.getElementById("name").value;
    var addr=document.getElementById("address").value;
    var age=document.getElementById("age").value;
    var dob=document.getElementById("birthday").value;
    var ms=document.getElementById("mstat").value;
    var radios = document.getElementsByName('gender');
    var gender;
    for (var radio of radios) {
      if (radio.checked) {
        gender = radio.value;
      }
    }
    var contact=document.getElementById("num").value;
    var addiction=document.getElementById("div2").innerHTML;
    document.writeln("<link rel=\"stylesheet\" href=\"style.css\">")

    for(var i=0;i<6;i++)
      document.writeln("<br>");
    document.writeln("<body>");
    document.writeln("<h1 style=\"text-align:center;\"><i>Form Details</i></h1>");
    document.writeln("<table border =\"1\"width = \"50%\">");
    document.writeln( "<tr><th>ID</th><th>Value</th></tr>");
    document.writeln("<tr><td>NAME</td><td>"+name+"</td></tr>");
    document.writeln("<tr><td>ADDRESS</td><td>"+addr+"</td></tr>");
    document.writeln("<tr><td>AGE</td><td>"+age+"</td></tr>");
    document.writeln("<tr><td>D.O.B</td><td>"+dob+"</td></tr>");
    document.writeln("<tr><td>Marital Status</td><td>"+ms+"</td></tr>");
    document.writeln("<tr><td>GENDER</td><td>"+gender+"</td></tr>");
    document.writeln("<tr><td>CONTACT</td><td>"+contact+"</td></tr>");
    document.writeln("<tr><td>ADDICTION </td><td>"+addiction+"</td></tr>");
    document.writeln( "</table></body>" );
    }
    function test()
    {
        document.writeln("<p>Hello world</p>");
    }
```
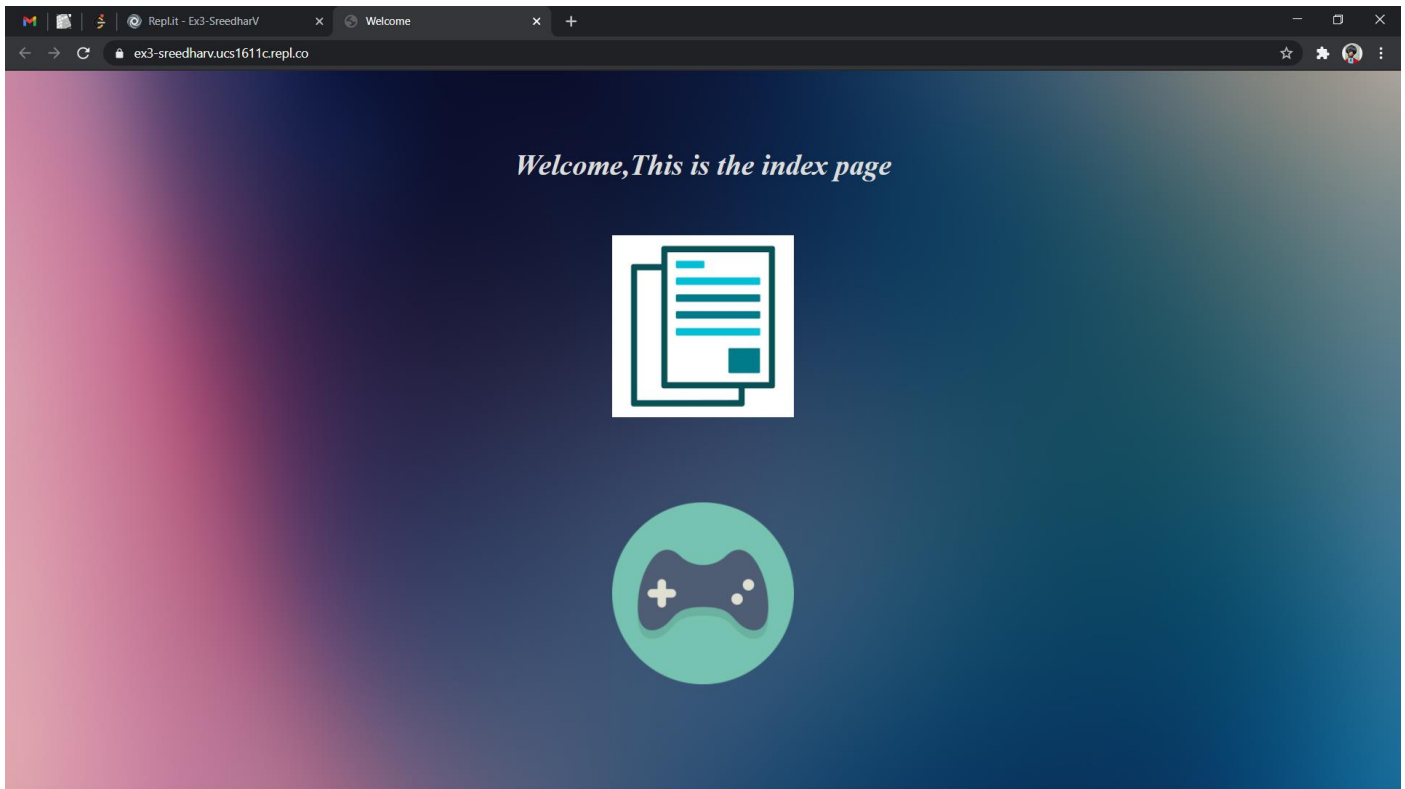
(HTML file style.css)

```css
table:hover {

    transform: scale(1.2);
  }
  li{
    background-color: #ca398e;
    float: left;
    border: none;
    outline: none;
    cursor: pointer;
    padding: 8px 9px;
    transition: 0.3s;
    color: beige;
  }
  li:hover{
    background-color: aliceblue;
    color: black;
  }
  body{
    background-image: linear-
gradient(to right, rgba(255,0,0,0), rgb(122, 160, 231));
  }
  th {
    padding: 15px;
  text-align:centre;
  background-color: #f2a154;
  border: 2px solid black;
  }
  h1{
    color: rgb(8, 42, 71);
  }
  tr:hover {background-color: #ffdcdc;}
  tr:nth-child(even) {background-color: #f2f2f2;}
  td{
  padding: 15px;
  text-align:centre;
  border: 1px solid black;
  }
  table {
    border: 1px solid black;
  width : 40%;
  border-collapse: collapse;
  border: 1px solid black;
  margin-left: auto;
  margin-right: auto;
  transition: transform 0.3s;
  }
```

SNAPSHOT OF THE OUTPUT:

(Index.html)

(Registration.html)

(game.html)