Web Programming

Lab - 9

Java Script

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Course Code: BCSE203E
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Question 1:

1. The following are the daily temperature recordings of NEWYORK city (In Fahrenheit) 55,62,68,74,59,45,41,58,60,67,65,78,82,88,91,92,90,93,87,80,78,79,72,68,61,59,55,65
   Your JavaScript program should count and print the number of HOT days (High Temperature: 85 or higher), the number of PLEASANT days (High temperature: 60-84) and the number of COLD days (High temperature<60) in the city. It should also display the category of each temperature in an HTML Table.

Code:

HTML

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>23BCE1728</title>
    <style>
        *{
            font-size: 12px;
        }
        table{
            border-collapse: collapse;
            border: 2px solid black;
        }
        th,td{
            width: 150px;
            text-align: left;
        }
    </style>
</head>
<body>
    <h2>Exercise 9.1</h2>
    <table border="1">
    </table>
    <script src="script1.js"></script>
</body>
</html>
```

JS

```
let table=document.querySelector('table');
let arr=[55,62,68,74,59,45,41,58,60,67,65,78,82,88,91,92,90,93,87,80,78,79,72,68,61,59,55,65];
console.log(arr);
let f=document.createDocumentFragment();
let hot=0,pleasent=0,cold=0;
for(let i in arr){
    let category="";
    if(arr[i]>=85){hot++;category="HOT";}
    else if(arr[i]<85&&arr[i]>=60){pleasent++;category="PLEASENT";}
    else{cold++;category="COLD";}
    let newRow=document.createElement('tr');

    let td1=document.createElement('td');
    td1.innerText=parseInt(i)+1;
    let td2=document.createElement('td');
    td2.innerText=arr[i];
    let td3=document.createElement('td');
    td3.innerText=category;

    newRow.append(td1,td2,td3);
    f.append(newRow);
}
```

```
let newElement=document.createElement('div');
newElement.innerHTML='<p>No of HOT days: '+hot+'</p><p>No of PLEASENT days: '+pleasent+'</p><p>No of COLD
days: '+cold+'</p>';
document.body.appendChild(newElement);
```

```
let headerRow=document.createElement('tr');
let th1=document.createElement('th');
th1.innerText="Day"
headerRow.appendChild(th1);
```

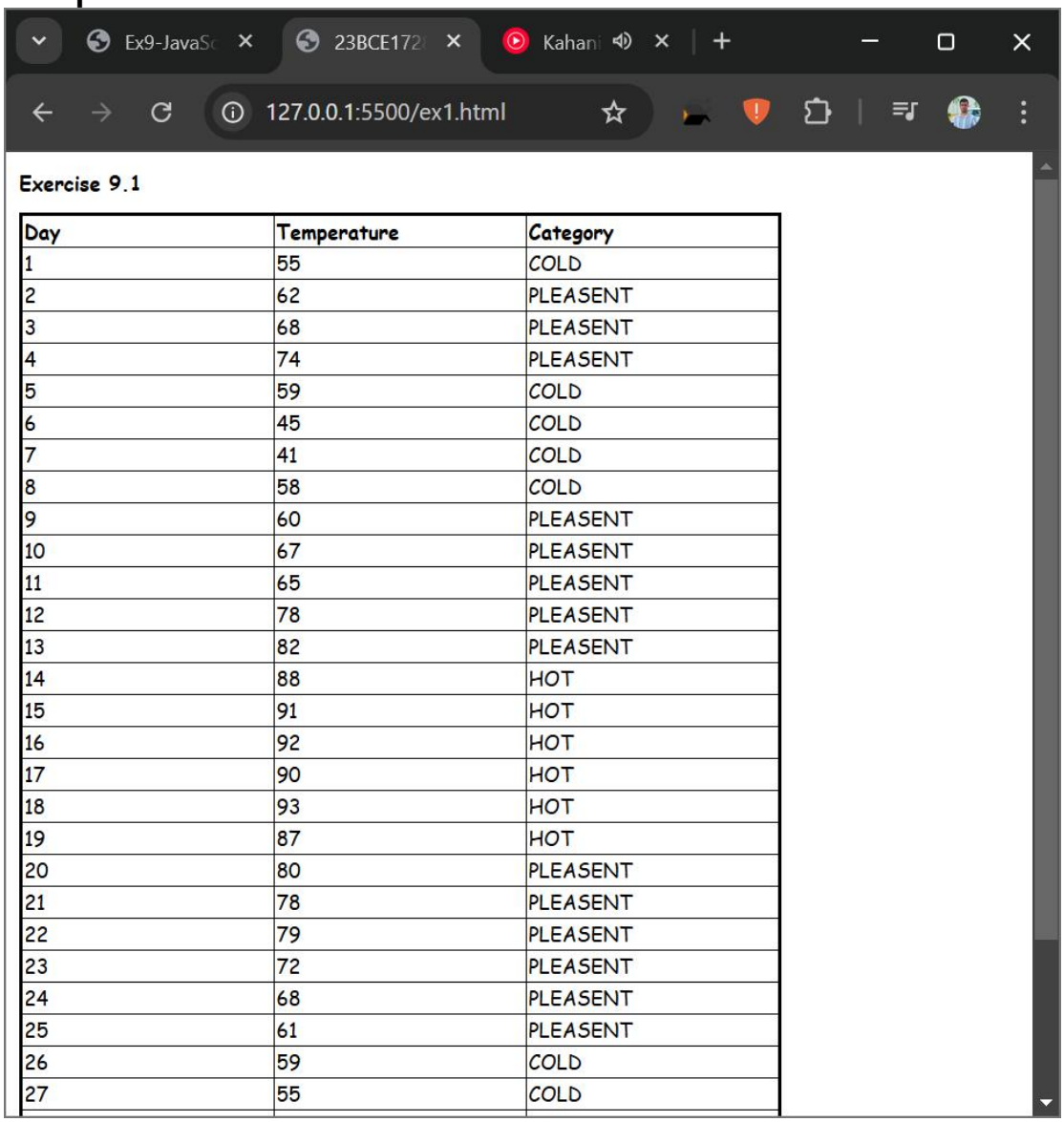
```
let th2=document.createElement('th');
th2.innerText="Temperature"
headerRow.appendChild(th2);
```

```
let th3=document.createElement('th');
th3.innerText="Category"
headerRow.appendChild(th3);
```

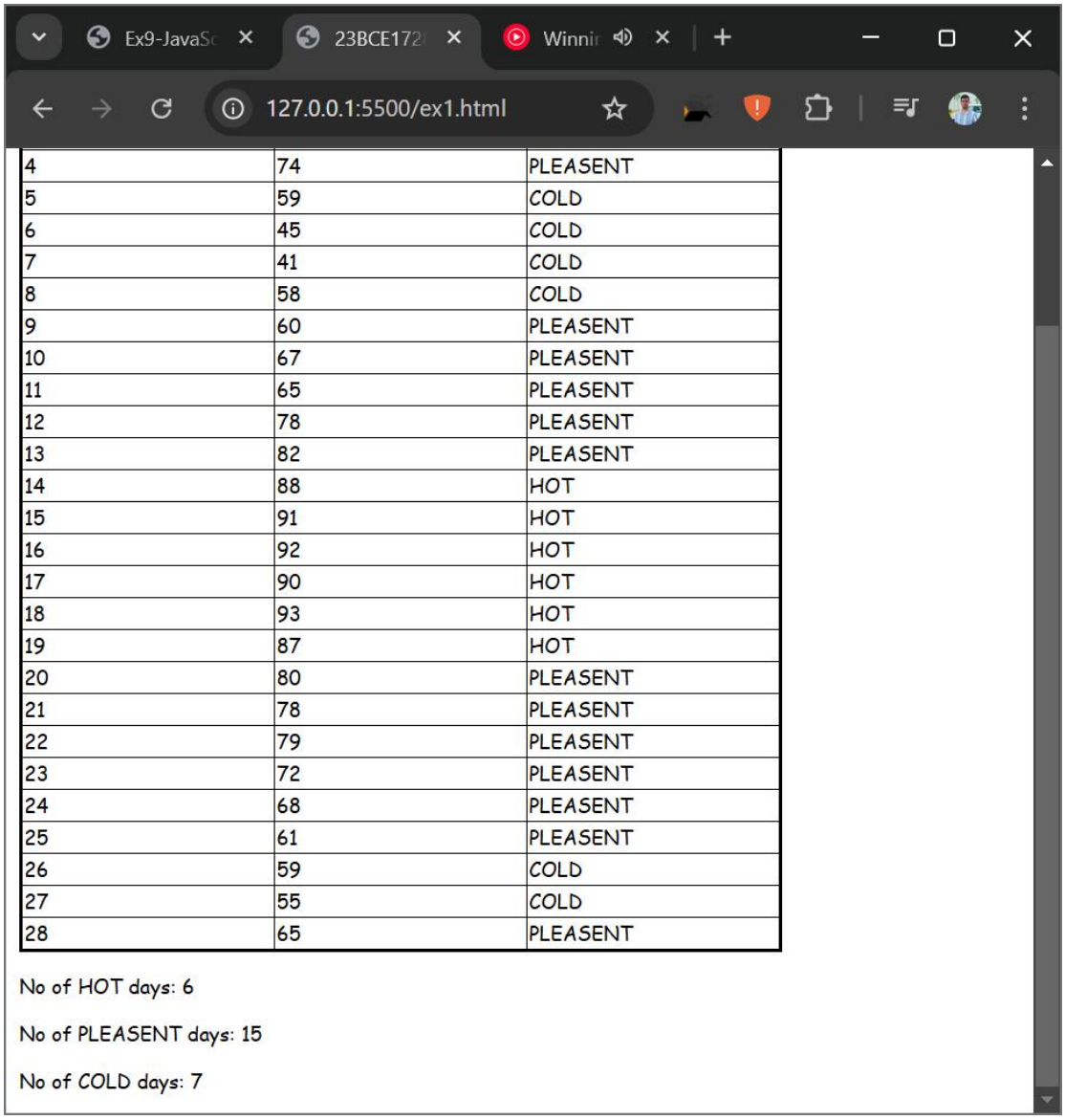
```
table.appendChild(headerRow);
```

```
table.appendChild(f);
```

Output:



Day	Temperature	Category
1	55	COLD
2	62	PLEASENT
3	68	PLEASENT
4	74	PLEASENT
5	59	COLD
6	45	COLD
7	41	COLD
8	58	COLD
9	60	PLEASENT
10	67	PLEASENT
11	65	PLEASENT
12	78	PLEASENT
13	82	PLEASENT
14	88	HOT
15	91	HOT
16	92	HOT
17	90	HOT
18	93	HOT
19	87	HOT
20	80	PLEASENT
21	78	PLEASENT
22	79	PLEASENT
23	72	PLEASENT
24	68	PLEASENT
25	61	PLEASENT
26	59	COLD
27	55	COLD



4	74	PLEASENT
5	59	COLD
6	45	COLD
7	41	COLD
8	58	COLD
9	60	PLEASENT
10	67	PLEASENT
11	65	PLEASENT
12	78	PLEASENT
13	82	PLEASENT
14	88	HOT
15	91	HOT
16	92	HOT
17	90	HOT
18	93	HOT
19	87	HOT
20	80	PLEASENT
21	78	PLEASENT
22	79	PLEASENT
23	72	PLEASENT
24	68	PLEASENT
25	61	PLEASENT
26	59	COLD
27	55	COLD
28	65	PLEASENT

No of HOT days: 6

No of PLEASENT days: 15

No of COLD days: 7

Question 2:

2. A small airline has just purchased a computer for its newly automated reservations system. Write a JavaScript program to assign seats on each flight (capacity: 10 seats). Your program should display the following:

   - If the person types 1, assign a seat in the first-class section (seats 1–5).
   - If the person types 2, assign a seat in the economy section (seats 6–10).
   - When the first-class section is full, your program should ask the person if it is acceptable to be placed in the economy section (and vice versa)

   Allot the seats based on the above choices. Print a boarding pass indicating the person's name, seat number and class

   Use one-dimensional array to represent the seating chart of the plane. Initialize all the elements of the array to 0 to indicate that all the seats are empty. As each seat is assigned, set the corresponding elements of the array to 1 to indicate that the seat is no longer available.

Code:

HTML

```
<!DOCTYPE html>
```

```html
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>23BCE1728</title>
    <style>
        table{
            border-collapse: collapse;
            display: inline-block;
        }
        td,th{
            width: 150px;
            text-align: left;
        }
        h3{
            text-align: center;
        }
    </style>
</head>
<body>
    <h2>Exercise 9.2</h2>
    <table border="2">
        <tr>
            <th>Seat Number</th>
            <th>Seat Status</th>
        </tr>
        <tr>
            <td>1</td>
            <td class="seat">0</td>
        </tr>
        <tr>
            <td>2</td>
            <td class="seat">0</td>
        </tr>
        <tr>
            <td>3</td>
            <td class="seat">0</td>
        </tr>
        <tr>
            <td>4</td>
            <td class="seat">0</td>
        </tr>
        <tr>
            <td>5</td>
            <td class="seat">0</td>
        </tr>
        <tr>
            <td>6</td>
            <td class="seat">0</td>
        </tr>
        <tr>
            <td>7</td>
            <td class="seat">0</td>
        </tr>
        <tr>
            <td>8</td>
            <td class="seat">0</td>
        </tr>
        <tr>
            <td>9</td>
            <td class="seat">0</td>
        </tr>
        <tr>
            <td>10</td>
            <td class="seat">0</td>
        </tr>
    </table>
    <div>
        <p>
            Select your seat Category
            <br>
            1: First-class
            <br>
```

```
            2: Economy
            <br>
        </p>
        <form action="">
            <label for="">Name: </label>
            <input type="text" id="input-name">
            <br>
            <label for="">Choice: </label>
            <input type="text" name="i1" id="input-choice">
            <br>
            <button onclick="bookSeat()" id="submit-button">Submit</button>
        </form>
    </div>
    <script src="script2.js"></script>
</body>
</html>
```

JS

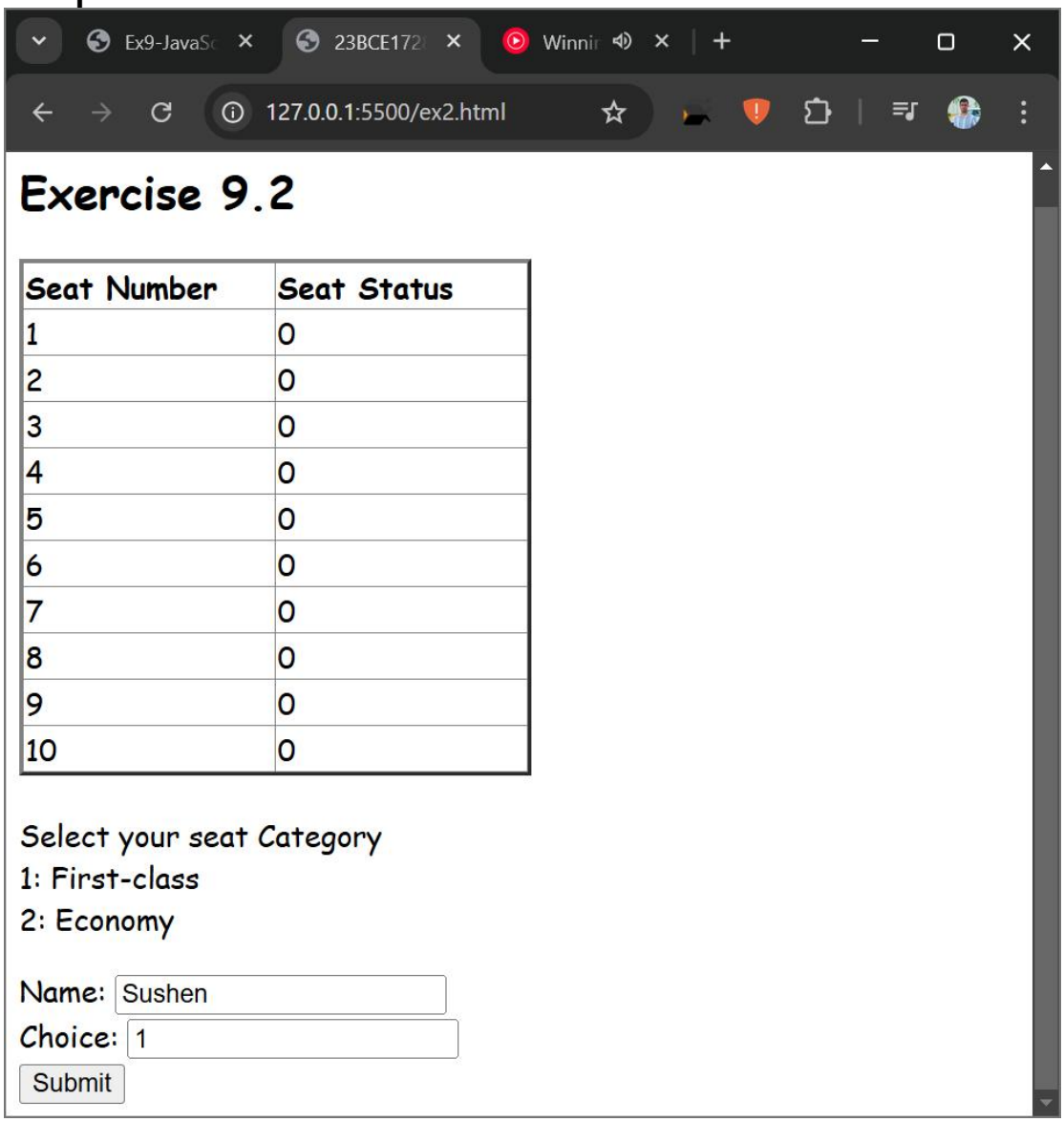
```
function showBoardingPass(name,choice,seat){
    let bp=document.createElement('div');
    let p=[];
    for(let i=0;i<3;i++){
        p[i]=document.createElement('p');
    }
    p[0].innerText="Name: "+name;
    p[1].innerText="Seat No: "+seat;
    if(choice===1){
        p[2].innerText="Class: First Class";
    }
    else{
        p[2].innerText="Class: Economy";
    }
    let heading=document.createElement('h3');
    heading.innerText="BOARDING PASS";

    bp.append(heading,p[0],p[1],p[2]);
```

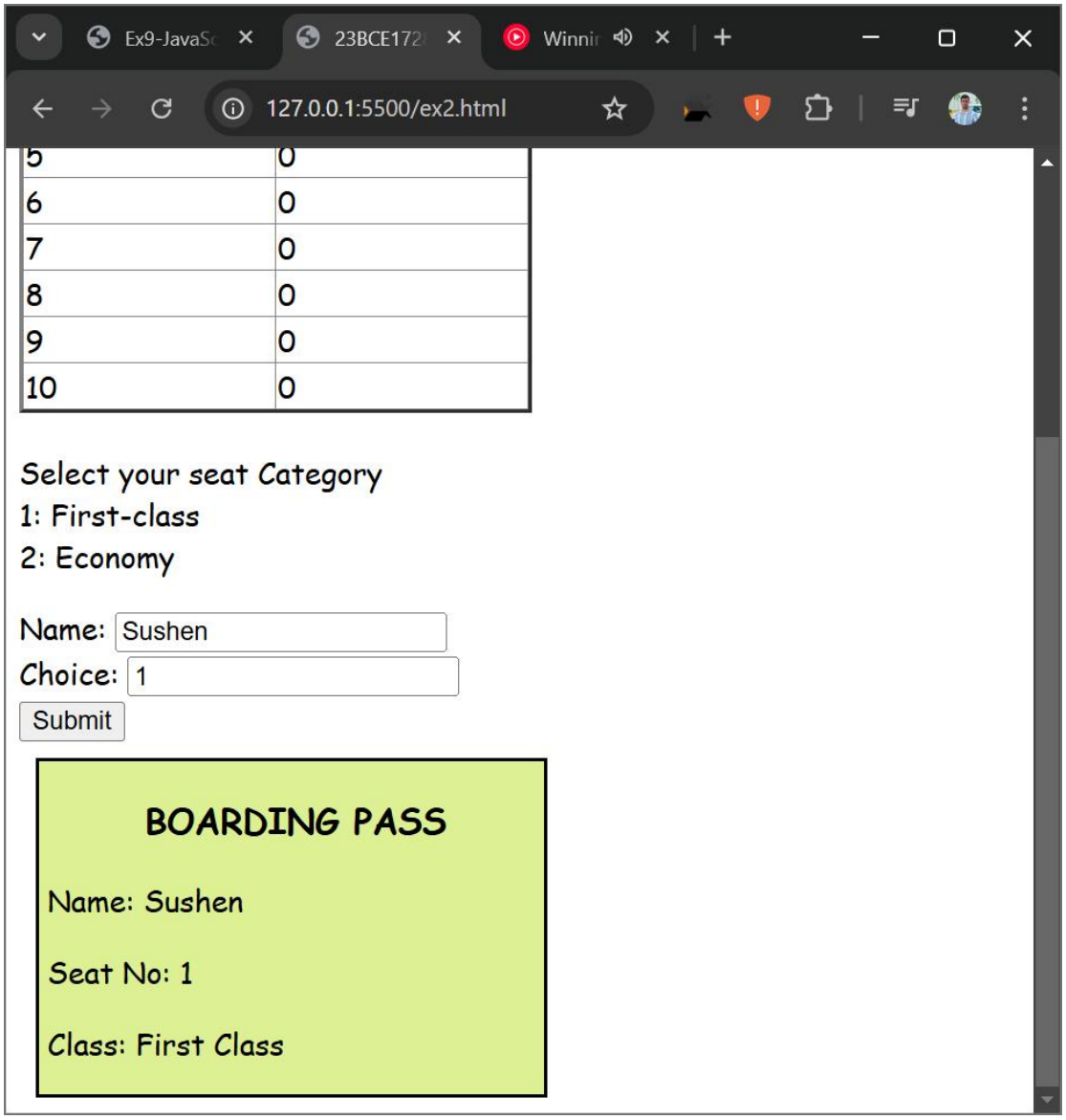
```
    bp.style.cssText="margin:10px;padding:0px 0px 0px 5px;border: 2px solid black;background-color:
#DDF093;width:300px;"

    document.body.appendChild(bp);
}
function bookSeat(event){
    event.preventDefault();
    let seats=document.querySelectorAll(".seat");
    let inputElement=document.querySelector("#input-choice");
    let choice=parseInt(inputElement.value);
```

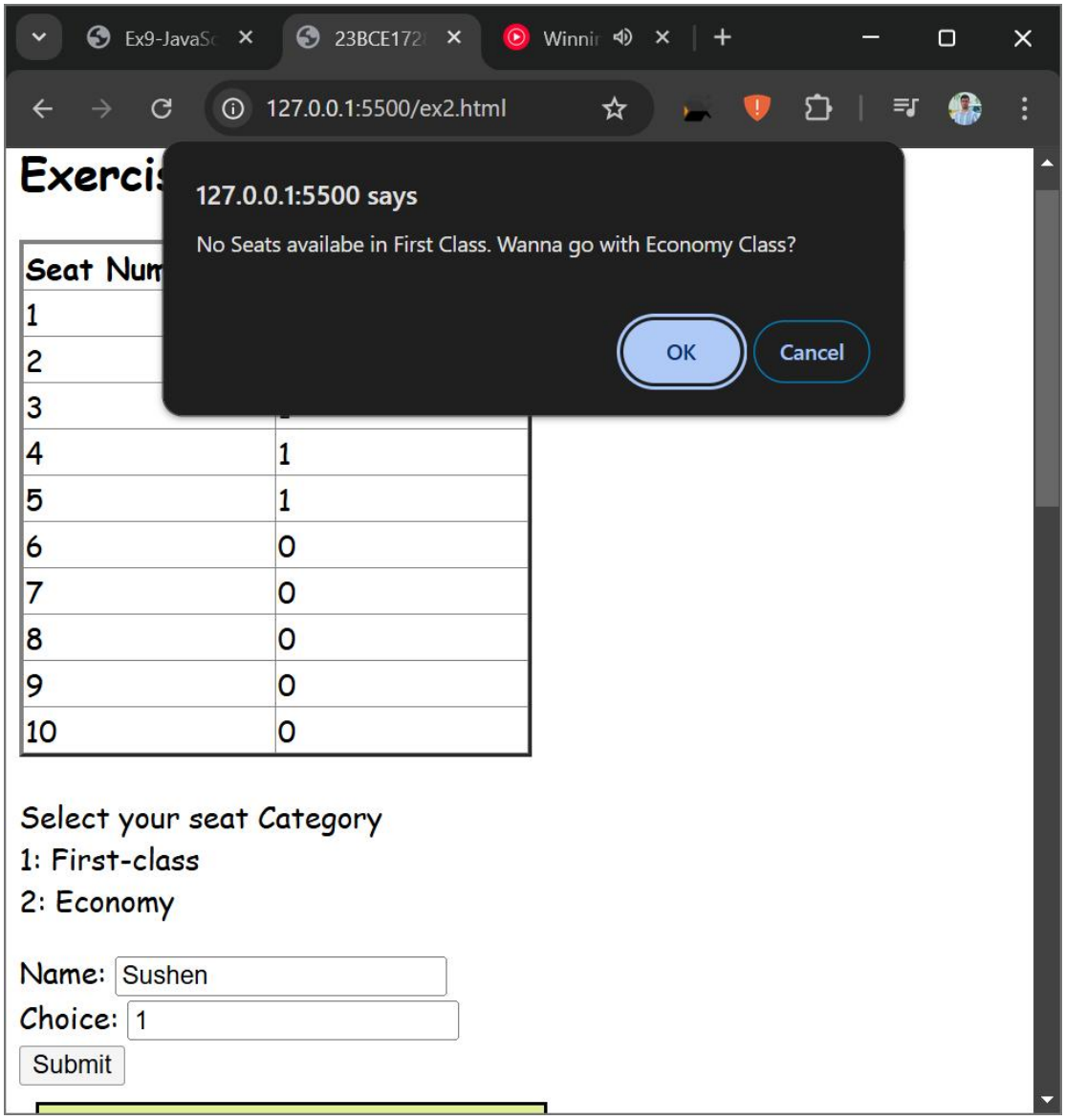
```
    let name=document.querySelector("#input-name").value;

    if(choice==1){
        let flag=0;
        for(let i=0;i<5;i++){
            if(seats[i].innerText==0){
                showBoardingPass(name,choice,parseInt(i)+1);
                seats[i].innerText='1';
                flag++;
                break;
            }
        }
        if(flag===0){
            let check=confirm("No Seats availabe in First Class. "+"Wanna go with Economy Class?");
            if(check){
                let flag=0;
                for(let i=5;i<10;i++){
                    if(seats[i].innerText==0){
                        showBoardingPass(name,2,parseInt(i)+1);
                        seats[i].innerText='1';
                        flag++;
                        break;
                    }
                }
                if(flag==0){
```

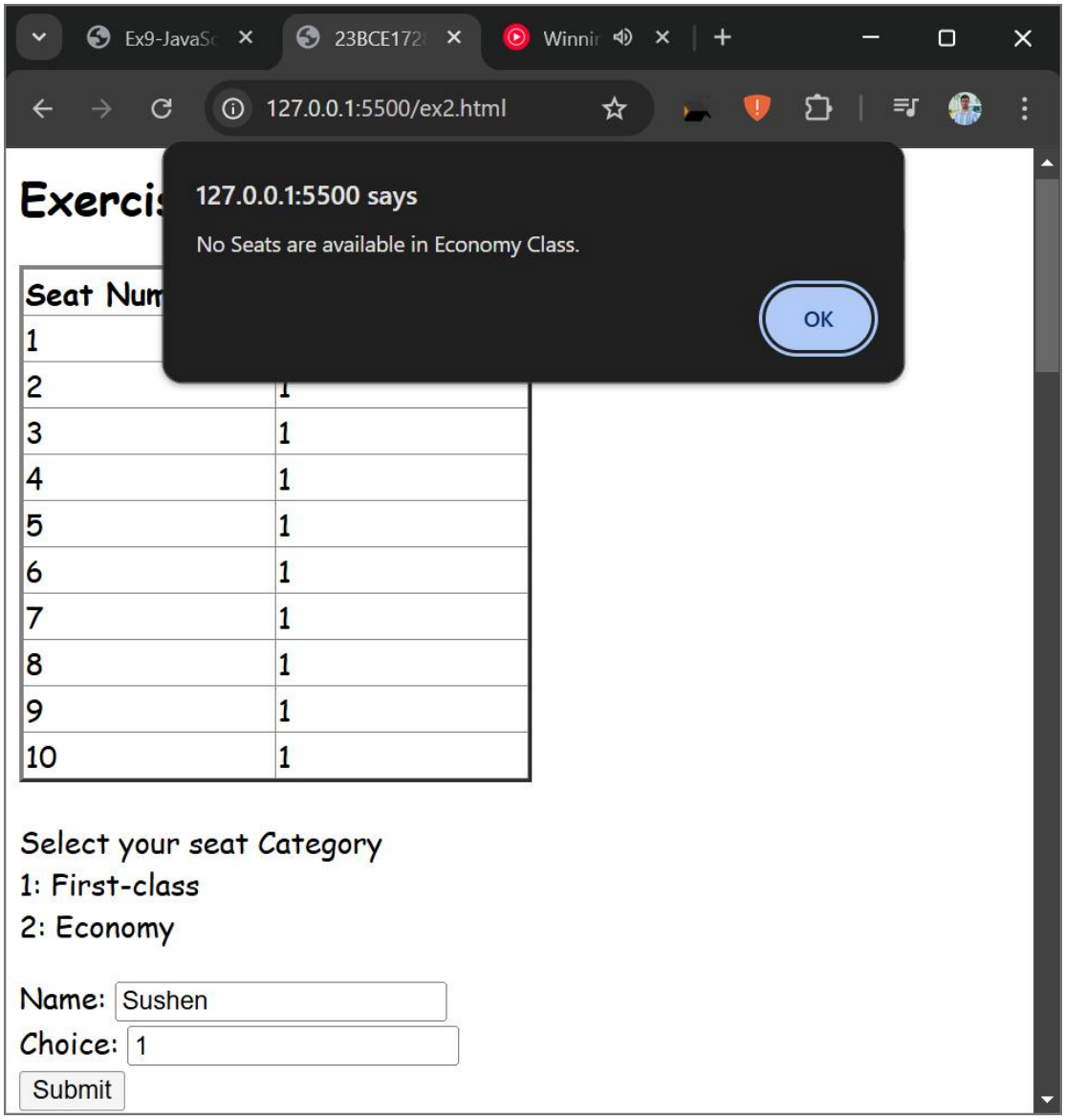
```
                    alert("No Seats are available in Economy Class.");
                }
            }
        }
    }
    else if(choice==2){
        let flag=0;
        for(let i=5;i<10;i++){
            if(seats[i].innerText==0){
                showBoardingPass(name,choice,parseInt(i)+1);
                seats[i].innerText='1';
                flag++;
                break;
            }
        }
        if(flag==0){
            alert("No Seats are available in Economy Class.");
        }
    }
    else{
        alert("Invalid Choice!");
    }
}
document.querySelector('#submit-button').addEventListener('click',bookSeat);
```

Output:




Ex9-JavaSc
23BCE172
Winnir
127.0.0.1:5500/ex2.html
5 0
6 0
7 0
8 0
9 0
10 0
Select your seat Category
1: First-class
2: Economy
Name: Sushen
Choice: 1
Submit
BOARDING PASS
Name: Sushen
Seat No: 1
Class: First Class


Ex9-JavaSc
23BCE172
Winnir
127.0.0.1:5500/ex2.html
Exerci
127.0.0.1:5500 says
No Seats availabe in First Class. Wanna go with Economy Class?
OK
Cancel
Seat Num
1
2
3
4 1
5 1
6 0
7 0
8 0
9 0
10 0
Select your seat Category
1: First-class
2: Economy
Name: Sushen
Choice: 1
Submit



Question 3:

3. Use Javascript to develop the web page as given in Fig.1 to calculate the Body Mass Index (BMI) and display the adult's status through appropriate popup boxes. For

example, the BMI rate of the men is 21, and then prints the status through a popup box as "Ideal Range" by triggering the event on a "Calculate" button.

Note: Refer Table.1 to get the BMI criteria information.

$$BMI=703*weight/Height^2$$

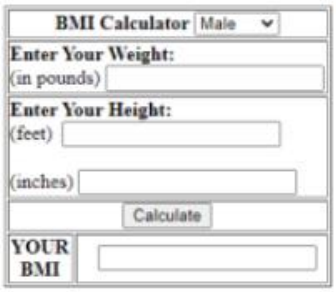


Fig.1. BMI Calculator

Table.1 BMI Criteria

Adults	Women	Men
Anorexia	Less than 17.50	
Underweight	17.51-19.10	17.501-20.70
Ideal range	**19.11-25.80**	**20.71-26.40**
Marginally overweight range	25.81-27.30	26.41-27.80
Overweight range	27.31-32.30	27.81-31.10
Very overweight or Obese range	More than 32.30	More than 31.10

Code:

HTML

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>23BCE1728</title>
    <style>
        table{
            border-collapse: collapse;
        }
        tr{
            border: 2px solid black;
        }
        td,th{
            width: 150px;
            padding: 5px 10px 5px 10px;
            height: auto;
            text-align: left;
            border: none;
        }
        #output-div{
            border: 1px solid black;
            width: 100px;
            height: 30px;
        }
    </style>
</head>
<body>
    <h2>Exercise 9.3</h2>
```

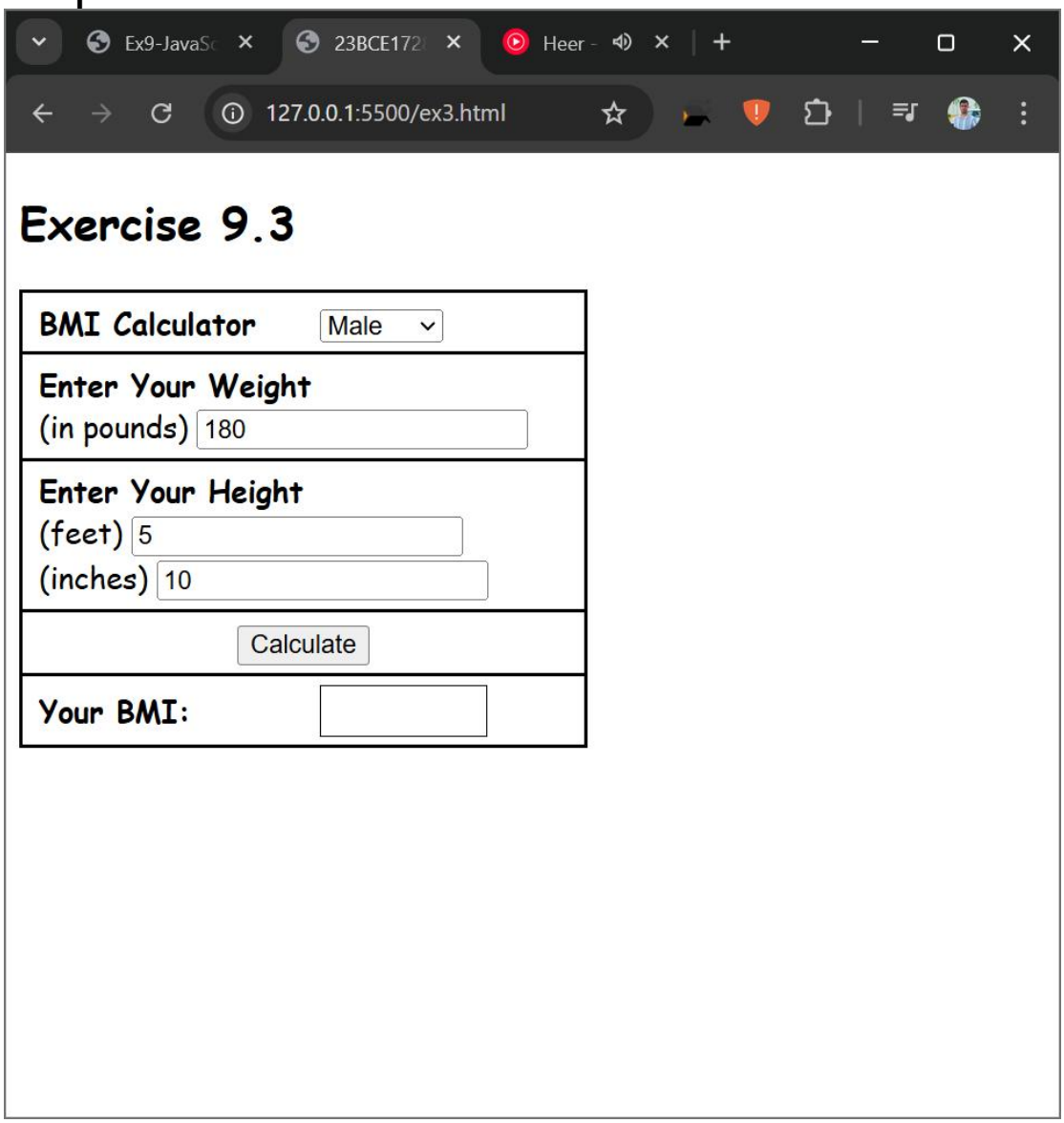
```
    <table border="2">
        <tr>
            <th>BMI Calculator</th>
            <td>
                <select name="" id="gender-input">
                    <option value="male">Male</option>
                    <option value="female">Female</option>
                </select>
            </td>
        </tr>
        <tr>
            <td colspan="2">
                <b>Enter Your Weight</b>
                <br>
                <label for="">(in pounds)</label>
                <input type="text" id="weight-input">
            </td>
        </tr>
        <tr>
            <td colspan="2">
                <b>Enter Your Height</b>
                <br>
                <label for="">(feet)</label>
                <input type="text" id="feet-input">
                <br>
                <label for="">(inches)</label>
                <input type="text" id="inches-input">
            </td>
        </tr>
        <tr>
            <td style="text-align: center;" colspan="2">
                <button id="calculate-button">Calculate</button>
            </td>
        </tr>
        <tr>
            <td>
                <b>Your BMI:</b>
            </td>
            <td>
                <div id="output-div" style="text-align: center;"></div>
            </td>
        </tr>
    </table>
    <script src="script3.js"></script>
</body>
</html>
```

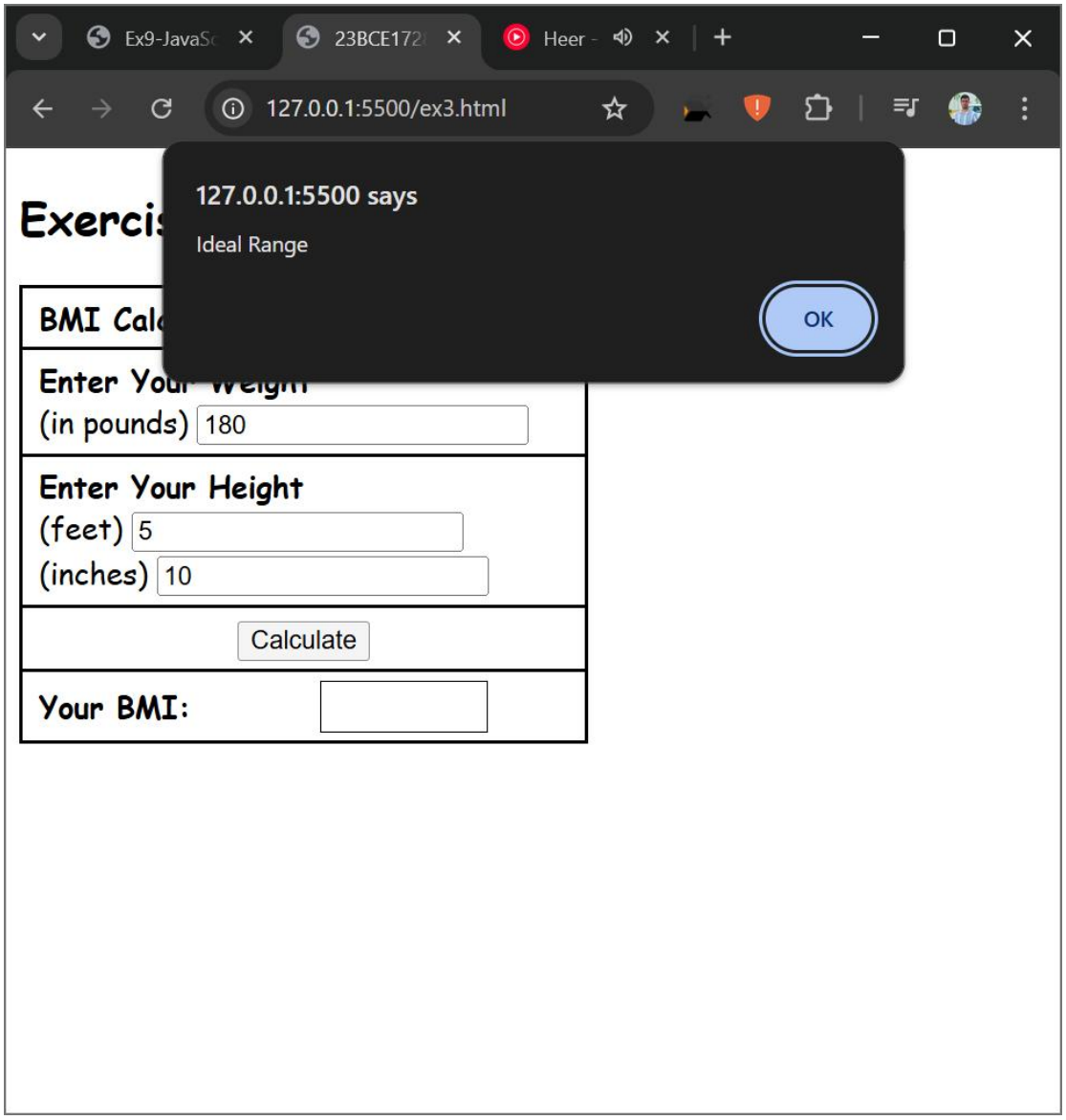
JS

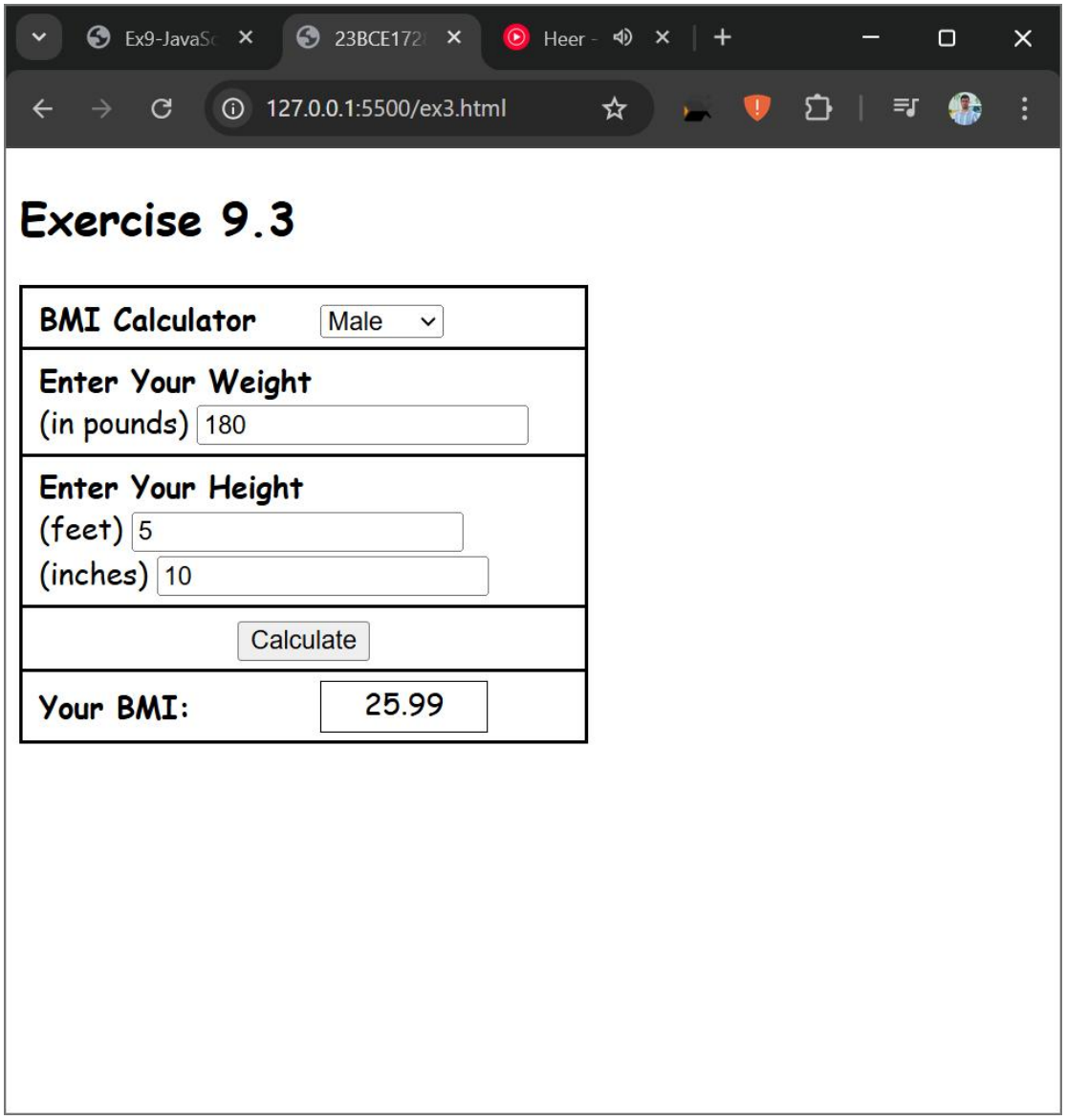
```
function findBMI(w,h){
    return (w)/(h**2);
}
function findCriteria(bmi,gender){
    if(gender=="female"){
        if(bmi<=17.5){return "Anorexia";}
        else if(bmi<=19.1&&bmi>=17.51){return "Underweight";}
        else if(bmi<=25.8&&bmi>=19.11){return "Ideal Range";}
        else if(bmi<=27.3&&bmi>=25.81){return "Marginally Overweight Range";}
        else if(bmi<=32.3&&bmi>=27.31){return "Overweight Range";}
        else if(bmi>32.3){return "Obese Range";}
    }
    else{
        if(bmi<=17.5){return "Anorexia";}
        else if(bmi<=20.7&&bmi>=17.51){return "Underweight";}
        else if(bmi<=26.4&&bmi>=20.71){return "Ideal Range";}
        else if(bmi<=27.8&&bmi>=26.41){return "Marginally Overweight Range";}
        else if(bmi<=31.1&&bmi>=27.81){return "Overweight Range";}
        else if(bmi>31.1){return "Obese Range";}
    }
}
function start(event){
    event.preventDefault();
    let gender=document.querySelector("#gender-input").value;
    let feet=parseInt(document.querySelector("#feet-input").value);
```

```
    let inch=parseInt(document.querySelector("#inches-input").value);
    let heightInFeet=feet+(inch/12);
    let heightInMeter=heightInFeet*0.304;
    let weightInPound=parseInt(document.querySelector("#weight-input").value);
    let weightInKg=weightInPound*0.454;
    let bmi=findBMI(weightInKg,heightInMeter);
    bmi=Math.round(bmi*100)/100;
    document.querySelector("#output-div").textContent=bmi;
    let range=findCriteria(bmi,gender);
    alert(range);
}
document.querySelector("#calculate-button").addEventListener('click',start);
```

Output:




Ex9-JavaSc
23BCE172
Heer -
127.0.0.1:5500/ex3.html
127.0.0.1:5500 says
Ideal Range
OK
Exerci
BMI Cal
Enter Your Weight
(in pounds) 180
Enter Your Height
(feet) 5
(inches) 10
Calculate
Your BMI:


Ex9-JavaSc
23BCE172
Heer -
127.0.0.1:5500/ex3.html
Exercise 9.3
BMI Calculator
Male
Enter Your Weight
(in pounds) 180
Enter Your Height
(feet) 5
(inches) 10
Calculate
Your BMI:
25.99