

## **Web Programming**

### **Week 4**

**Type the Code:**

public > <> index.html > html > body > main.container > section.card > div.table-wrap

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta http-equiv="X-UA-Compatible" content="IE=edge">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7   <title>Building Material Inventory Management System</title>
8   <style>
9     #addMaterialBtn{
10       background-color: ■rgb(76, 175,80);
11     }
12   </style>
13 </head>
14 <body>
15   <main class="container">
16     <section class="card">
17       <h3>Building Material Inventory</h3>
18       <form id="materialForm" novalidate>
19         <div class="field">
20           <label for="materialName">Material Name:</label>
21           <input type="text" id="materialName" placeholder="Enter material name"/>
22         </div>
23         <div class="field">
24           <label for="category">Material Category:</label>
25           <select id="category">
26             <option value="Wood">Wood</option>
27             <option value="Cement">Cement</option>
28             <option value="Steel">Steel</option>
29             <option value="Bricks">Bricks</option>
30             <option value="Glass">Glass</option>
31           </select>
32         </div>
33         <div class="field">
34           <label for="quantity">Quantity:</label>
35           <input type="number" id="quantity" placeholder="Enter quantity"/>
36         </div>
37         <div class="field">
38           <label for="supplierName">Supplier Name:</label>
39           <input type="text" id="supplierName" placeholder="Enter supplier name"/>
40         </div>
41         <div class="field">
42           <label for="costPerUnit">Cost Per Unit (RS):</label>
43           <input type="number" id="costPerUnit" placeholder="Enter cost per unit" step="0.01"/>
44         </div>
45         <button type="button" id="addMaterialBtn" style="background-color: ■rgb(76,175,80);">Submit Material</button><br>
```

```
46     <span id="error-message" class="error"></span>
47 </form>
48 <h4 class="subheading">Material List:</h4>
49 <div class="table-wrap">
50     <table id="materialTable">
51         <thead>
52             <tr>
53                 <th>Material Name</th>
54                 <th>Category</th>
55                 <th>Quantity</th>
56                 <th>Supplier</th>
57                 <th>Cost Per Unit (RS)</th>
58             </tr>
59         </thead>
60         <tbody>
61
62         </tbody>
63     </table>
64 </div>
65 <h4>Inventory Summary:</h4><br>
66 <p>Total Products: <span id="totalProducts">0</span></p><br>
67 <p>Most Expensive Product: <span id="mostExpensive">None</span><p>
68 <script src="script.js"></script>
69 </body>
70 </html>
```

public / -- snippets / < addMaterialAndUpdateSummaryClick / complete

```
1  const materialName=document.getElementById("materialName");
2  const categoryInput=document.getElementById("category");
3  const quantityInput=document.getElementById("quantity");
4  const supplierNameInput=document.getElementById("supplierName");
5  const costPerUnitInput=document.getElementById("costPerUnit");
6  const addMaterialBtn=document.getElementById("addMaterialBtn");
7  const errorMessage=document.getElementById("error-message");
8  const materialTableBody=document.getElementById("materialTable").querySelector("tbody");
9  const totalProductsSpan=document.getElementById("totalProducts");
10 const mostExpensiveSpan=document.getElementById("mostExpensive");
11
12 let materials=[];
13 addMaterialBtn.addEventListener("click",()=>{
14     const name=materialName.value.trim();
15     const category=categoryInput.value;
16     const quantity=quantityInput.value.trim();
17     const supplier=supplierNameInput.value.trim();
18     const cost=costPerUnitInput.value.trim();
19     if(!name||!category||!quantity||!supplier||!cost)
20     {
21         errorMessage.textContent="Please fill out all fields!";
22         return;
23     }
24     if(Number(quantity)<=0 || Number(cost)<=0)
25     {
26         errorMessage.textContent="Quantity and cost must be positive numbers!";
27         return;
28     }
29     errorMessage.textContent="";
30     const material={
31         name,
32         category,
33         quantity: Number(quantity),
34         supplier,
35         cost: Number(cost)
36     };
37     materials.push(material);
38     renderTable();
39     updateSummary();
```

```

38     renderTable();
39     updateSummary();
40     materialName.value="";
41     categoryInput.value="";
42     quantityInput.value="";
43     supplierNameInput.value="";
44     costPerUnitInput.value="";
45 });
46 function renderTable(){
47     materialTableBody.innerHTML="";
48     materials.forEach(mat=>{
49         const row=document.createElement("tr");
50         row.innerHTML=`
51             <td>${mat.name}</td>
52             <td>${mat.category}</td>
53             <td>${mat.quantity}</td>
54             <td>${mat.supplier}</td>
55             <td>RS ${mat.cost.toFixed(2)}</td>`;
56         materialTableBody.appendChild(row);
57     })
58 }
59 function updateSummary(){
60     totalProductsSpan.textContent=materials.length;
61     if(materials.length>0)
62     {
63         let expensiveMaterial=materials.reduce((prev,current)=>
64             current.cost>prev.cost?current:prev
65         );
66         mostExpensiveSpan.textContent=`${expensiveMaterial.name} (RS ${expensiveMaterial.cost.toFixed(2)})`;
67     }
68     else{
69         mostExpensiveSpan.textContent="None";
70     }
71 }

```

## Fix the Code:

public > <> index.html > html > body > script

```
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Music Album Collection Manager</title>
7      <link rel="stylesheet" href="style.css">
8  </head>
9  <body>
10     <header>
11         <h3>Music Album Collection</h3>
12     </header>
13     <form>
14         <label for="albumName">Album Name</label>
15         <input id="albumName" type="text" placeholder="Enter album name">
16         <br><br>
17         <label for="releaseYear">Release Year</label>
18         <input id="releaseYear" type="number" placeholder="Enter release year">
19         <br><br>
20         <label for="genre">Genre</label>
21         <select id="genre">
22             <option value="Pop">Pop</option>
23             <option value="Rock">Rock</option>
24             <option value="Jazz">Jazz</option>
25             <option value="Clasical">Clasical</option>
26         </select>
27         <br><br>
28         <label for="favorite">Mark as Favorite</label>
29         <input type="checkbox" id="favorite">
30         <br><br>
31         <button id="addAlbumBtn" type="button">Add Album</button>
32         <span id="error-message"></span>
33     </form>
34     <h2>Album List</h2>
35     <ul id="albumList"></ul>
36     <h2>Favorites Album</h2>
37     <ul id="favoriteAlbumList"></ul>
38     <script src="script.js"></script>
39 </body>
40 </html>
...
```

public > # style.css >  button

```
1  body{
2      font: 18px Arial, sans-serif;
3      background:  lightblue;
4      padding: 10px;
5  }
6
7  h1 {
8      font-family: 'Times New Roman';
9      font-size: 40px;
10 }
11
12 #albumList {
13     color:  blue;
14     background-color:  lightgray;
15     text-align: center;
16     font-size: 14px;
17 }
18
19 ul {
20     margin-left: 10px;
21     padding-left: 20px;
22     list-style-type: square;
23 }
24
25 input[type="text"] {
26     padding: 5px 10px;
27     width: 180px;
28 }
29
30 button {
31     background-color:  rgb(76, 175, 80);
32     color:  red;
33     padding: 10px 20px;
34     border: none;
35 }
36
37 #error-message {
38     color:  #ff0000;
39     font-weight: normal;
40     font-size: 14px;
41     display: block;
42     text-align: left;
43 }
44
45 #favoriteAlbumList li {
46     color:  green;
47     font-size: 12px;
48     font-weight: light;
49 }
50
51 input[type="number"] {
52     width: 120px;
53     padding: 8px;
54     margin-top: 5px;
55     background-color:  yellow;
56 }
```

public > JS script.js > addEventListener("click") callback

```
1  document.getElementById("addAlbumBtn").addEventListener("click",()=>{
2
3  const albumnameinput=document.getElementById("albumName").value.trim();
4  const releaseyearinput=document.getElementById("releaseYear").value.trim();
5  const genreinput=document.getElementById("genre").value;
6  const favoriteinput=document.getElementById("favorite").checked;
7  const errorMessage=document.getElementById("error-message");
8  const albumlistinput=document.getElementById("albumList");
9  const favoritealbumlistinput=document.getElementById("favoriteAlbumList");
10
11  if(!albumnameinput||!releaseyearinput||!genreinput)
12  {
13      |       errorMessage.textContent="Please fill out all fields!";
14      |       return;
15  }
16  errorMessage.textContent="";
17  const li=document.createElement("li");
18  li.innerHTML=`<strong>${albumnameinput}</strong><br>
19  |       |       |       |       <em>Released:</em> ${releaseyearinput} | <em>Genre:</em> ${genreinput}`;
20  if(favoriteinput)
21  {
22      |       favoritealbumlistinput.appendChild(li);
23  }
24  else{
25      |       albumlistinput.appendChild(li);
26  }
27  document.getElementById("albumName").value="";
28  document.getElementById("releaseYear").value="";
29  document.getElementById("genre").value="";
30  document.getElementById("favorite").checked=false;
31
32  });
```

## Practice at home 1:

```
public > <> index.html > html > head > style > #form
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4    <meta charset="UTF-8">
5    <meta http-equiv="X-UA-Compatible" content="IE=edge">
6    <meta name="viewport" content="width=device-width, initial-scale=1.0">
7  <style>
8    body{
9      background-color: lightgray;
10   }
11   #form{
12     background-color: white;
13     width: 300px;
14     margin: auto;
15     margin-top: 150px;
16     border-radius: 5px;
17     padding-left: 100px;
18     padding-right: 10px;
19   }
20   #mark-progress{
21     background-color: rgb(41,168,71);
22     color: white;
23     padding: 10px 10px 10px 10px;
24     border-radius: 5px;
25   }
26   #reset-progress{
27     background-color: crimson;
28     color: white;
29     padding: 10px 10px 10px 10px;
30     border-radius: 5px;
31   }
32 </style>
33 </head>
```

```

34 <body>
35   <div id="form">
36     <h1>Habit Tracker</h1>
37     <input type="checkbox" id="chkWater">
38     <label>Drink Water</label><br>
39     <input type="checkbox" id="chkExercise">
40     <label>Exercise</label><br>
41     <input type="checkbox" id="chkReading">
42     <label>Read a Book</label><br><br>
43     <button id="mark-progress" type="submit" onclick="progress()">Mark Progress</button>
44     <button id="reset-progress" type="reset" onclick="resetAll()">Reset</button>
45     <p id="summary">You have completed 0 habits today.</p>
46   </div>
47   <script src="script.js"></script>
48 </body>
49 </html>

```

public > JS scriptjs > progress

```

1  var box1=document.getElementById('chkWater');
2  var box2=document.getElementById('chkExercise');
3  var box3=document.getElementById('chkReading');
4  var count=0;
5  function progress(){
6    if(box1.checked)
7    {
8      count++;
9    }
10   if(box2.checked)
11   {
12     count++;
13   }
14   if(box3.checked)
15   {
16     count++;
17   }
18   document.getElementById('summary').textContent="You have completed "+count+" habits today.";
19
20 }
21 function resetAll(){
22   box1.checked=false;
23   box2.checked=false;
24   box3.checked=false;
25   document.getElementById('summary').textContent="You have completed 0 habits today.";
26 }

```


## Practice at home 2:

```
public > <> index.html > html > body > div#container > button#generateBtn
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4    <meta charset="UTF-8">
5    <meta http-equiv="X-UA-Compatible" content="IE=edge">
6    <meta name="viewport" content="width=device-width, initial-scale=1.0">
7    <title>Multiplication Table Generator</title>
8    <style>
9      body{
10        background-color: lightgray;
11      }
12      #container
13      {
14        background-color: white;
15        padding: 10px 10px 10px 10px;
16        width: 300px;
17        border-radius: 5px;
18        margin: auto;
19        margin-top: 100px;
20      }
21      input{
22        width: 280px;
23        height: 35px;
24        border-radius: 5px;
25        border-color: rgba(0, 0, 0, 0.467);
26      }
27      #generateBtn{
28        background-color: rgb(77,176,80);
29        color: white;
30        text-align: center;
31        width: 290px;
32        height: 30px;
33        border-radius: 5px;
34        border-style: none;
35      }
36    </style>
37  </head>
```

```

39 <body>
40   <div id="container">
41     <h3>Multiplication Table Generator</h3>
42     <label for="number">Enter a number: </label><br><br>
43     <input type="number" id="number" placeholder="Enter a number"><br><br>
44     <label for="start">Start Value: </label><br><br>
45     <input type="number" id="start" placeholder="Start of range"><br><br>
46     <label for="end">End Value: </label><br><br>
47     <input type="number" id="end" placeholder="End of range"><br><br>
48     <button id="generateBtn" type="button" onclick="generatetable()">Generate Table</button><br><br>
49     <div id="errorMessage"></div><br><br>
50     <div id="table"></div><br><br>
51   </div>
52   <script src="script.js"></script>
53 </body>
54 </html>

```

public > JS script.js >  generatetable

```

1  function generatetable()
2  {
3      let number=document.getElementById('number').value;
4      let start=document.getElementById('start').value;
5      let end=document.getElementById('end').value;
6
7      let errorDiv=document.getElementById('errorMessage');
8      let tableDiv=document.getElementById('table');
9
10     errorDiv.textContent='';
11     tableDiv.innerHTML='';
12
13     if(number===''||start===''||end==='')
14     {
15         errorDiv.textContent="All fields are required!";
16         return;
17     }
18
19     number=parseInt(number);
20     start=parseInt(start);
21     end=parseInt(end);
22
23     let output=`Multiplication table of ${number}<br>`;
24     for(let i=start;i<=end;i++)
25     {
26         output+=`${number} x ${i} = ${number*i}<br>`;
27     }
28     tableDiv.innerHTML=output;
29 }

```

## Challenge yourself:

public > index.html > html > body > label#marksLabel

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>Document</title>
7 </head>
8 <body>
9   <!-- Write your code -->
10  <h1>Grade Calculator</h1>
11  <label id="marksLabel">Enter your marks (0-100):</p>
12  <input type="number" id="marks">
13  <button id="getGradeButton" type="button" onclick="calculate()">Convert</button><br><br>
14  <p id="gradeResult"></p>
15  <script src="script.js"></script>
16 </body>
17 </html>
```

public > JS script.js > ...

```
1 function calculate(){
2   var mark=document.getElementById('marks').value;
3   mark=mark.trim();
4
5   if(mark==="")
6   {
7     document.getElementById('gradeResult').textContent="Enter any marks to get the grades.";
8     return;
9   }
10  mark=Number(mark);
11  if(mark>=90 && mark<=100)
12  {
13    document.getElementById('gradeResult').textContent="For marks " + mark + ", your grade is: A";
14  }
15  else if(mark>=80 && mark<=89)
16  {
17    document.getElementById('gradeResult').textContent="For marks " + mark + ", your grade is: B";
18  }
19  else if(mark>=70 && mark<=79)
20  {
21    document.getElementById('gradeResult').textContent="For marks " + mark + ", your grade is: C";
22  }
23  else if(mark>=60 && mark<=69)
24  {
25    document.getElementById('gradeResult').textContent="For marks " + mark + ", your grade is: D";
26  }
27  else if(mark<60 && mark>=0)
28  {
29    document.getElementById('gradeResult').textContent="For marks " + mark + ", your grade is: F";
30  }
31  else
32  {
33    document.getElementById('gradeResult').textContent="The marks should be between 0-100.";
34  }
35 }
36
```