

Class-4: DOM-II

Create Elements

- Explain about create elements
- First create elements on HTML using h1 tag
- Next using createElement and appending

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
  </head>
  <body></body>
</html>

<script>
  let name1 = document.createElement("h1");
  name1.textContent = "Chandra";

  let name2 = document.createElement("h1");
  name2.textContent = "Akki";

  let name3 = document.createElement("h1");
  name3.textContent = "Advika";

  let name4 = document.createElement("h1");
  name4.textContent = "Cherry";

  let body = document.querySelector("body");
```

```
body.append(name1, name2, name3, name4);  
</script>
```

```
// Storing names in array and using map
```

```
<!DOCTYPE html>  
<html lang="en">  
  <head>  
    <meta charset="UTF-8" />  
    <meta name="viewport" content="width=device-width, initial-scale=1.0">  
    <title>Document</title>  
  </head>  
  <body></body>  
</html>  
  
<script>  
  let names = ["Chandra", "Akki", "Advika", "Cherry",];  
  let body = document.querySelector("body");  
  
  names.map(function (elem) {  
    let name_x = document.createElement("h1");  
    name_x.textContent = elem;  
    body.append(name_x);  
  });  
</script>
```

```
// storing names in array of objects
```

```
<!DOCTYPE html>  
<html lang="en">  
  <head>  
    <meta charset="UTF-8" />  
    <meta name="viewport" content="width=device-width, initial-scale=1.0">  
    <title>Document</title>
```

```

</head>
<body></body>
</html>

<script>
  let names = [
    { name: "Chandra" },
    { name: "Akki" },
    { name: "Advika" },
    { name: "Cherry" },
  ];
  let body = document.querySelector("body");

  names.map(function (elem) {
    let name_x = document.createElement("h1");
    name_x.textContent = elem.name;
    body.append(name_x);
  });
</script>

```

// using innerHTML

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
  </head>
  <body></body>
</html>

<script>
  let names = [

```

```

    { name: "Chandra" },
    { name: "Akki" },
    { name: "Advika" },
    { name: "Cherry" },
  ];
  let body = document.querySelector("body");

  // Generate HTML content using innerHTML
  body.innerHTML = names.map(function (elem) {
    return `<h1>${elem.name}</h1>`;
  }).join('');
</script>

```

// Creating list of products only using HTML and Tailwind

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0"/>
    <title>Document</title>
  </head>
  <body>
    <!DOCTYPE html>
    <html lang="en">
      <head>
        <meta charset="UTF-8" />
        <meta name="viewport" content="width=device-width, initial-scale=1.0"/>
        <script src="https://cdn.tailwindcss.com"></script>
        <style></style>
      </head>
      <body class="bg-gray-100 p-6">
        <div class="grid grid-cols-1 sm:grid-cols-2 md:grid-cols-3">
          <!-- Product Card 1 -->

```

```

<div class="bg-white p-4 rounded-lg shadow-md">
  <h2 class="text-lg font-bold mb-2">Laptop</h2>
  <p class="text-gray-900 font-bold mb-2">$1000</p>
</div>

<!-- Product Card 2 -->
<div class="bg-white p-4 rounded-lg shadow-md">
  <h2 class="text-lg font-bold mb-2">Phone</h2>
  <p class="text-gray-900 font-bold mb-2">$500</p>
</div>

<!-- Product Card 3 -->
<div class="bg-white p-4 rounded-lg shadow-md">
  <h2 class="text-lg font-bold mb-2">Tablet</h2>
  <p class="text-gray-900 font-bold mb-2">$700</p>
</div>

<!-- Product Card 4 -->
<div class="bg-white p-4 rounded-lg shadow-md">
  <h2 class="text-lg font-bold mb-2">Smartwatch</h2>
  <p class="text-gray-900 font-bold mb-2">$250</p>
</div>

<!-- Product Card 5 -->
<div class="bg-white p-4 rounded-lg shadow-md">
  <h2 class="text-lg font-bold mb-2">Headphones</h2>
  <p class="text-gray-900 font-bold mb-2">$150</p>
</div>

<!-- Product Card 6 -->
<div class="bg-white p-4 rounded-lg shadow-md">
  <h2 class="text-lg font-bold mb-2">Camera</h2>
  <p class="text-gray-900 font-bold mb-2">$1200</p>
</div>

<!-- Product Card 7 -->

```

```

<div class="bg-white p-4 rounded-lg shadow-md">
  <h2 class="text-lg font-bold mb-2">Keyboard</h2>
  <p class="text-gray-900 font-bold mb-2">$80</p>
</div>

<!-- Product Card 8 -->
<div class="bg-white p-4 rounded-lg shadow-md">
  <h2 class="text-lg font-bold mb-2">Mouse</h2>
  <p class="text-gray-900 font-bold mb-2">$40</p>
</div>

<!-- Product Card 9 -->
<div class="bg-white p-4 rounded-lg shadow-md">
  <h2 class="text-lg font-bold mb-2">Monitor</h2>
  <p class="text-gray-900 font-bold mb-2">$300</p>
</div>

<!-- Product Card 10 -->
<div class="bg-white p-4 rounded-lg shadow-md">
  <h2 class="text-lg font-bold mb-2">Speaker</h2>
  <p class="text-gray-900 font-bold mb-2">$200</p>
</div>
</div>
</body>
</html>
</body>
</html>

```

Displaying products using DOM

```

//using createElement
<!doctype html>
<html lang="en">
<head>

```

```

<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<script src="https://cdn.tailwindcss.com"></script>
<style>
  /* Custom styling for the product card */
  .product-card {
    transition: transform 0.3s;
  }
  .product-card:hover {
    transform: translateY(-5px);
  }
</style>
</head>
<body class="bg-gray-100 p-6">
  <h1 class="text-2xl font-bold mb-6">Product List</h1>
  <div id="product-list" class="grid grid-cols-1 sm:grid-cols-2">

<script>
  const products = [
    { id: 1, name: 'Laptop', price: 1000, type: 'electronics' },
    { id: 2, name: 'Phone', price: 500, type: 'electronics' },
    { id: 3, name: 'Tablet', price: 700, type: 'electronics' },
    { id: 4, name: 'Smartwatch', price: 250, type: 'electronics' },
    { id: 5, name: 'Headphones', price: 150, type: 'accessories' },
    { id: 6, name: 'Camera', price: 1200, type: 'electronics' },
    { id: 7, name: 'Keyboard', price: 80, type: 'accessories' },
    { id: 8, name: 'Mouse', price: 40, type: 'accessories' },
    { id: 9, name: 'Monitor', price: 300, type: 'electronics' },
    { id: 10, name: 'Speaker', price: 200, type: 'accessories' }
  ];

  const productList = document.getElementById('product-list');

  products.forEach(product => {
    const productCard = document.createElement('div');
    productCard.className = 'product-card bg-white p-4 rounded';

```

```

    const productName = document.createElement('h2');
    productName.className = 'text-lg font-bold mb-2';
    productName.textContent = product.name;

    const productPrice = document.createElement('p');
    productPrice.className = 'text-gray-900 font-bold mb-2';
    productPrice.textContent = `$$${product.price}`;

    productCard.appendChild(productName);
    productCard.appendChild(productPrice);

    productList.appendChild(productCard);
  });
</script>
</body>
</html>

```

```

//using innerhtml
<!doctype html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <script src="https://cdn.tailwindcss.com"></script>
  <style>
    /* Custom styling for the product card */
    .product-card {
      transition: transform 0.3s;
    }
    .product-card:hover {
      transform: translateY(-5px);
    }
  </style>
</head>

```



```

<body class="bg-gray-100 p-6">
  <h1 class="text-2xl font-bold mb-6">Product List</h1>
  <div id="product-list" class="grid grid-cols-1 sm:grid-cols-2

<script>
  const products = [
    { id: 1, name: 'Laptop', price: 1000, type: 'electronics' },
    { id: 2, name: 'Phone', price: 500, type: 'electronics' },
    { id: 3, name: 'Tablet', price: 700, type: 'electronics' },
    { id: 4, name: 'Smartwatch', price: 250, type: 'electronics' },
    { id: 5, name: 'Headphones', price: 150, type: 'accessories' },
    { id: 6, name: 'Camera', price: 1200, type: 'electronics' },
    { id: 7, name: 'Keyboard', price: 80, type: 'accessories' },
    { id: 8, name: 'Mouse', price: 40, type: 'accessories' },
    { id: 9, name: 'Monitor', price: 300, type: 'electronics' },
    { id: 10, name: 'Speaker', price: 200, type: 'accessories' },
  ];

  const productList = document.getElementById('product-list');

  productList.innerHTML = products.map(product => `
    <div class="product-card bg-white p-4 rounded-lg shadow-md">
      <h2 class="text-lg font-bold mb-2">${product.name}</h2>
      <p class="text-gray-900 font-bold mb-2">${product.price}</p>
    </div>
  `).join('');
</script>
</body>
</html>

```

Keeping inside a function

```

<!DOCTYPE html>
<html lang="en">

```

```

<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1" />
  <script src="https://cdn.tailwindcss.com"></script>
  <style>
    /* Custom styling for the product card */
    .product-card {
      transition: transform 0.3s;
    }
    .product-card:hover {
      transform: translateY(-5px);
    }
  </style>
</head>
<body class="bg-gray-100 p-6">
  <h1 class="text-2xl font-bold mb-6">Product List</h1>
  <div
    id="product-list"
    class="grid grid-cols-1 sm:grid-cols-2 md:grid-cols-3 gap-4">
  </div>

  <script>
    const products = [
      { id: 1, name: "Laptop", price: 1000 },
      { id: 2, name: "Phone", price: 500 },
      { id: 3, name: "Tablet", price: 700 },
      { id: 4, name: "Smartwatch", price: 250 },
      { id: 5, name: "Headphones", price: 150 },
      { id: 6, name: "Camera", price: 1200 },
      { id: 7, name: "Keyboard", price: 80 },
      { id: 8, name: "Mouse", price: 40 },
      { id: 9, name: "Monitor", price: 300 },
      { id: 10, name: "Speaker", price: 200 },
    ];

    const productList = document.getElementById("product-list")
  </script>

```

```

function displayProducts(products) {
  productList.innerHTML = products
    .map(
      (product) => `
<div class="product-card bg-white p-4 rounded-lg shadow-md">
  <h2 class="text-lg font-bold mb-2">${product.name}</h2>
  <p class="text-gray-900 font-bold mb-2">${product.price}</p>
</div>
    `
    )
    .join("");
}

displayProducts(products);
</script>
</body>
</html>

```

Sorting by price

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <script src="https://cdn.tailwindcss.com"></script>
    <style>
      /* Custom styling for the product card */
      .product-card {
        transition: transform 0.3s;
      }
      .product-card:hover {
        transform: translateY(-5px);
      }
    </style>

```

```

    }
  </style>
</head>
<body class="bg-gray-100 p-6">
  <h1 class="text-2xl font-bold mb-6">Product List</h1>
  <div class="mb-4">
    <label for="sort" class="mr-2">Sort by:</label>
    <select id="sort" class="p-2 border rounded">
      <option value="default">Default</option>
      <option value="low-to-high">Price: Low to High</option>
      <option value="high-to-low">Price: High to Low</option>
    </select>
  </div>
  <div
    id="product-list"
    class="grid grid-cols-1 sm:grid-cols-2 md:grid-cols-3 gap-4">
  </div>

  <script>
    const products = [
      { id: 1, name: "Laptop", price: 1000 },
      { id: 2, name: "Phone", price: 500 },
      { id: 3, name: "Tablet", price: 700 },
      { id: 4, name: "Smartwatch", price: 250 },
      { id: 5, name: "Headphones", price: 150 },
      { id: 6, name: "Camera", price: 1200 },
      { id: 7, name: "Keyboard", price: 80 },
      { id: 8, name: "Mouse", price: 40 },
      { id: 9, name: "Monitor", price: 300 },
      { id: 10, name: "Speaker", price: 200 },
    ];

    const productList = document.getElementById("product-list");
    const sortSelect = document.getElementById("sort");

    function displayProducts(products) {

```

```

        productList.innerHTML = products
            .map(
                (product) => `
<div class="product-card bg-white p-4 rounded-lg shadow-md">
    <h2 class="text-lg font-bold mb-2">${product.name}</h2>
    <p class="text-gray-900 font-bold mb-2">${product.price}</p>
</div>
            `
            )
            .join("");
    }

function sortProducts() {
    const sortBy = sortSelect.value; // Get the selected value
    let sortedProducts = [...products]; // Create a shallow copy

    if (sortBy === "low-to-high") {
        sortedProducts.sort((a, b) => a.price - b.price);
    } else if (sortBy === "high-to-low") {
        sortedProducts.sort((a, b) => b.price - a.price);
    }

    displayProducts(sortedProducts);
}

sortSelect.addEventListener("change", sortProducts);

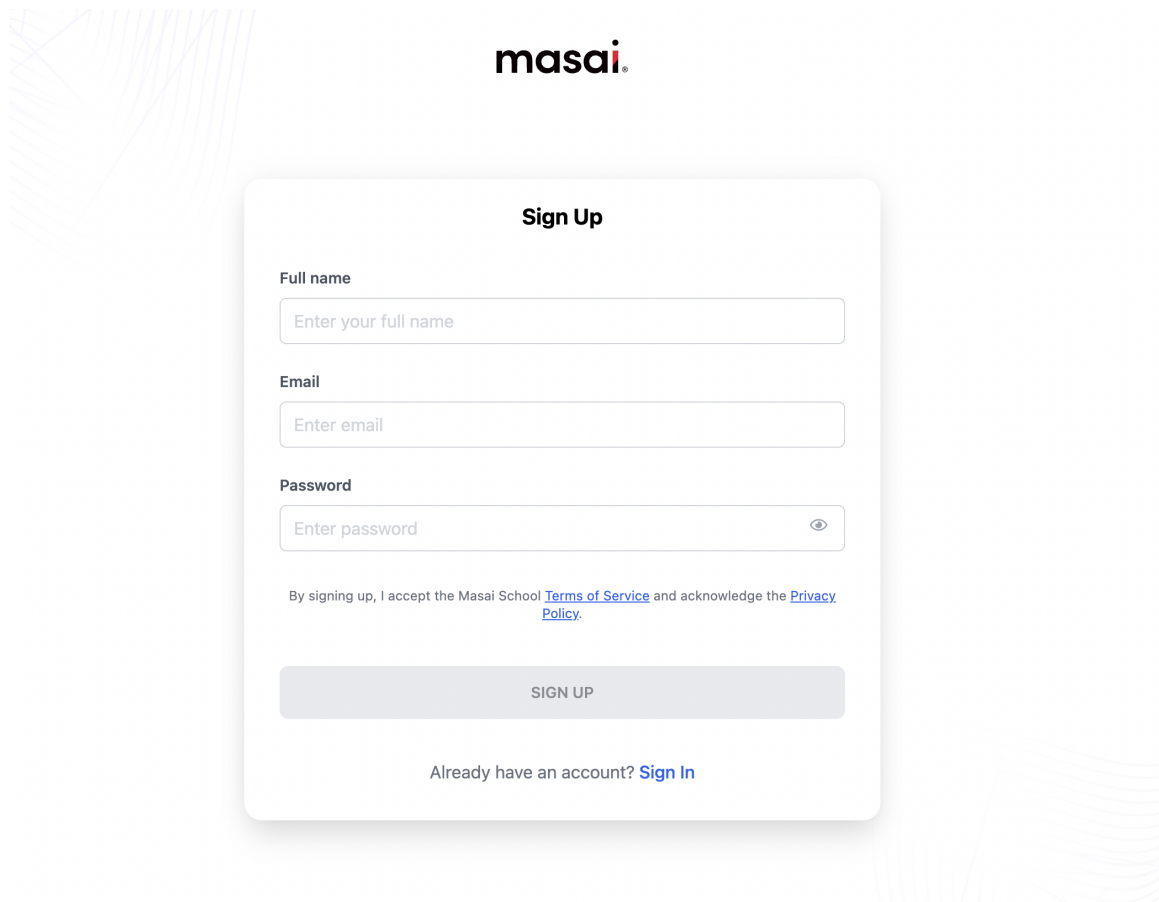
displayProducts(products); // Initial display
</script>
</body>
</html>

```

Value:

Getting values from Input tags

- In HTML introduction we have seen so many input tags.
- We have also seen masai form

The image shows a 'masai.' logo at the top center. Below it is a 'Sign Up' form. The form has three input fields: 'Full name' with placeholder text 'Enter your full name', 'Email' with placeholder text 'Enter email', and 'Password' with placeholder text 'Enter password' and a toggle icon. Below the password field is a line of text: 'By signing up, I accept the Masai School [Terms of Service](#) and acknowledge the [Privacy Policy](#).' At the bottom of the form is a 'SIGN UP' button. Below the button is a link: 'Already have an account? [Sign In](#)'.

- To interact with user, we need to get the value of
 - Full name
 - Email
 - Password
- How to get those values?
 - For getting those values we have an `attribute` in input tag known as `value` which is by default empty.

```
<input type="text" value=""/>
```

- Try to type in some value and check the output

```
<input type="text" value="Masai School"/>
```

Output:

Masai School

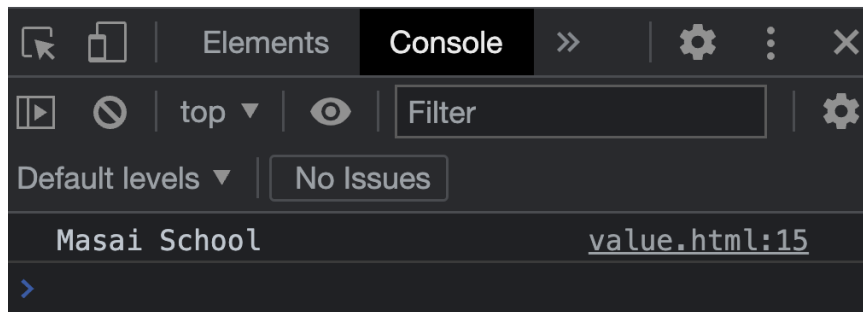
- So, whatever we type in that input box, we can capture that in `value` attribute.

Example:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Document</title>
  </head>
  <body>
    <input id="name" type="text" value="" />
    <button onClick="catchValue()">Submit</button>
  </body>
</html>

<script>
  function catchValue() {
    var studentName = document.getElementById("name").value;
    console.log(studentName);
  }
</script>
```

Output:



Live code : [Codepen](#)

Example 2 : [Codepen](#)

Todo list

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <title>U2C3</title>
    <link rel="stylesheet" href="index.css" />
    <style>
      div {
```



```

    display: flex;
    justify-content: space-around;
}
form {
    margin: 0 auto;
    margin-top: 50px;
    width: 30%;
    box-shadow: rgba(149, 157, 165, 0.2) 0px 8px 24px;
    padding: 30px;
}

label {
    font-size: 20px;
}

table {
    font-family: Arial, Helvetica, sans-serif;
    border-collapse: collapse;
    width: 60%;
    margin: auto;
    margin-top: 50px;
    text-align: center;
}

table td,
table th {
    border: 1px solid #ddd;
    padding: 8px;
    text-align: center;
}

table tr:nth-child(even) {
    background-color: #8caacf;
}

table tr:hover {

```

```

    background-color: #ddd;
}

table th {
    padding-top: 12px;
    padding-bottom: 12px;
    text-align: left;
    background-color: #0468aa;
    color: white;
    text-align: center;
}

* {
    box-sizing: border-box;
}

input[type="text"],
select,
textarea {
    width: 100%;
    padding: 12px;
    border: 1px solid #ccc;
    border-radius: 4px;
    box-sizing: border-box;
    margin-top: 6px;
    margin-bottom: 16px;
    resize: vertical;
}

input[type="submit"] {
    background-color: #2b619e;
    color: white;
    padding: 12px 20px;
    border: none;
    border-radius: 20px;
    cursor: pointer;
}

```

```

width: 100%;
font-size: 20px;
}

input[type="submit"]:hover {
background-color: #3973b6;
}

h1 {
text-align: center;
font-size: 50px;
text-transform: uppercase;
font-family: monospace;
color: #2b619e;
text-decoration: underline;
}

</style>
</head>
<body>
<!-- Dont make any changes here -->
<h1>TODO App</h1>

<div>
<!-- ***** We are using form here ***** -->
<form>
<label for="">Task Name</label><br />
<input id="task" type="text" placeholder="Enter Task Name" />
<label for="">Priority </label><br />
<select id="priority">
<option value="">Select Priority</option>
<option value="High">High</option>
<option value="Low">Low</option>
</select><br />
<input type="submit" />
</form>
<table>

```

```

    <!-- Dont change order of columns -->
    <thead>
        <tr>
            <th>Task</th>
            <th>Priority</th>
            <th>Delete</th>
        </tr>
    </thead>
    <tbody>
    <!-- Append your output to tbody -->
    </tbody>
    </table>
</div>
</body>
</html>

<script src="index.js">
document.querySelector("form").addEventListener("submit", myTodo

function myTodo() {
    event.preventDefault();
    var task = document.querySelector("#task").value;
    var priority = document.querySelector("#priority").value;

    var tr = document.createElement("tr");
    var td1 = document.createElement("td");
    td1.innerText = task;

    var td2 = document.createElement("td");
    td2.innerText = priority;

    if (priority == "High") {
        td2.style.backgroundColor = "red";
    } else {
        td2.style.backgroundColor = "green";
    }
}

```

```

var td3 = document.createElement("td");
td3.innerText = "Delete";
td3.addEventListener("click", deleteRow);
td3.style.color = "red";
tr.append(td1, td2, td3);
document.querySelector("tbody").append(tr);
}

function deleteRow() {
    event.target.parentNode.remove();
}
</script>

```

Getting values from Select tags

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Document</title>
  </head>
  <body>
    <select id="gender">
      <option value="">Select gender</option>
      <option value="MALE">Male</option>
      <option value="FEMALE">Female</option>
    </select>
    <button onClick="getGender()">Submit</button>
  </body>
</html>

```

```

<script>
  function getGender() {
    var gen = document.getElementById("gender").value;
    console.log(gen);
  }
</script>

```

Live code : [Codepen](#)

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <title>Expense Manager</title>
    <style>
      body {
        font-family: Arial, sans-serif;
      }

      h1 {
        text-align: center;
      }

      form {
        margin: 20px auto;
        width: 300px;
      }

      form input,
      form select {
        width: 100%;
        padding: 10px;
      }
    </style>
  </head>
  <body>
    <h1>Expense Manager</h1>
    <div>
      <div>
        <input type="text" value="Name" />
        <input type="text" value="Email" />
        <input type="text" value="Phone" />
        <input type="text" value="Address" />
      </div>
      <div>
        <input type="text" value="Expense" />
        <input type="button" value="Add Expense" />
      </div>
    </div>
  </body>
</html>

```

```
    margin: 10px 0;
    box-sizing: border-box;
}

#expenseList {
    display: flex;
    flex-wrap: wrap;
    justify-content: center;
    margin-top: 20px;
}

.expense-card {
    background-color: #f4f4f4;
    border-radius: 10px;
    box-shadow: 0 2px 5px rgba(0, 0, 0, 0.1);
    margin: 10px;
    padding: 20px;
    width: 200px;
    transition: transform 0.3s;
}

.expense-card:hover {
    transform: translateY(-5px);
}

.expense-card h3 {
    margin: 0;
    font-size: 18px;
}

.expense-card p {
    margin: 5px 0;
}

.totals {
    text-align: center;
```

```

        margin: 20px auto;
        width: 300px;
    }

    .totals h2 {
        margin: 5px 0;
    }
</style>
</head>
<body>
    <!-- Don't make any changes here -->
    <h1>Expense Manager</h1>

    <div>
        <!-- ***** We are using form here ***** -->
        <form>
            <label for="expenseName">Expense Name</label><br />
            <input
                id="expenseName"
                type="text"
                placeholder="Enter Expense Name" /><br />
            <label for="expenseAmount">Expense Amount</label><br />
            <input
                id="expenseAmount"
                type="number"
                placeholder="Enter Expense Amount" /><br />
            <label for="expenseType">Type</label><br />
            <select id="expenseType">
                <option value="">Select Type</option>
                <option value="Income">Income</option>
                <option value="Expense">Expense</option>
            ></select>
            ><br />
            <input type="submit" />
        </form>
    </div>

```



```

<div class="totals">
  <h2>Total Income: $<span id="totalIncome">0</span></h2>
  <h2>Total Expense: $<span id="totalExpense">0</span></h2>
  <h2>Net Income: $<span id="netIncome">0</span></h2>
</div>

<div id="expenseList" class="grid"></div>
</div>

<script>
  document.querySelector("form").addEventListener("submit",

  let totalIncome = 0;
  let totalExpense = 0;

  function addExpense(event) {
    event.preventDefault();
    const expenseName = document.querySelector("#expenseName");
    const expenseAmount = parseFloat(document.querySelector("#expenseAmount").value);
    const expenseType = document.querySelector("#expenseType");

    if (!expenseName || !expenseAmount || !expenseType) {
      alert("Please fill in all fields.");
      return;
    }

    const card = document.createElement("div");
    card.className = "expense-card";

    const name = document.createElement("h3");
    name.innerText = expenseName;

    const amount = document.createElement("p");
    amount.innerText = `Amount: $$${expenseAmount}`;

    const type = document.createElement("p");

```

```

    type.innerText = `Type: ${expenseType}`;
    if (expenseType == "Income") {
        card.style.backgroundColor = "green";
        totalIncome += expenseAmount;
    } else {
        card.style.backgroundColor = "red";
        totalExpense += expenseAmount;
    }

    updateTotals();

    card.append(name, amount, type);
    document.querySelector("#expenseList").append(card);

    document.querySelector("form").reset();
}

function updateTotals() {
    document.querySelector("#totalIncome").innerText = totalIncome;
    document.querySelector("#totalExpense").innerText = totalExpense;
    document.querySelector("#netIncome").innerText = (totalIncome - totalExpense).toFixed(2);
}
</script>
</body>
</html>

```