

# Experiment 11

## JavaScript DOM

### Question 01

#### **Code:**

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Dynamic Table & Events</title>
    <style>
      table {
        border-collapse: collapse;
        width: 50%;
        margin-bottom: 20px;
      }

      table,
      th,
      td {
        border: 1px solid black;
        padding: 10px;
        text-align: center;
      }

      button {
        background-color: red;
        color: white;
        padding: 10px;
        margin: 10px;
        cursor: pointer;
        border: none;
      }

      button:hover {
        background-color: green;
      }

      input[type="text"] {
        padding: 5px;
        margin: 10px;
```

```
border: 1px solid black;
}

ul {
  margin-top: 10px;
}
</style>
</head>

<body>
<script>
document.addEventListener("DOMContentLoaded", function () {
  let table = document.createElement("table");

  for (let i = 0; i < 3; i++) {
    let row = table.insertRow();
    for (let j = 0; j < 3; j++) {
      let cell = row.insertCell();
      cell.textContent = `Row ${i + 1}, Col ${j + 1}`;
    }
  }
  document.body.appendChild(table);
  let button = document.createElement("button");
  button.textContent = "Hover Me";
  button.onmouseover = () => (button.style.backgroundColor = "green");
  button.onmouseout = () => (button.style.backgroundColor = "red");
  document.body.appendChild(button);

  let textbox = document.createElement("input");
  textbox.type = "text";
  textbox.style.backgroundColor = "green";
  textbox.onfocus = () => (textbox.style.backgroundColor = "yellow");
  textbox.onchange = () => alert("Hello! You changed the text.");
  document.body.appendChild(textbox);

  let inputField = document.createElement("input");
  inputField.type = "text";
  let addButton = document.createElement("button");
  addButton.textContent = "Add to List";
  let ul = document.createElement("ul");

  addButton.ondbclick = function () {
    if (inputField.value.trim()) {
      let li = document.createElement("li");
      li.textContent = inputField.value;
      ul.appendChild(li);
    }
  }
}
```

```
        inputField.value = "";
    }
};

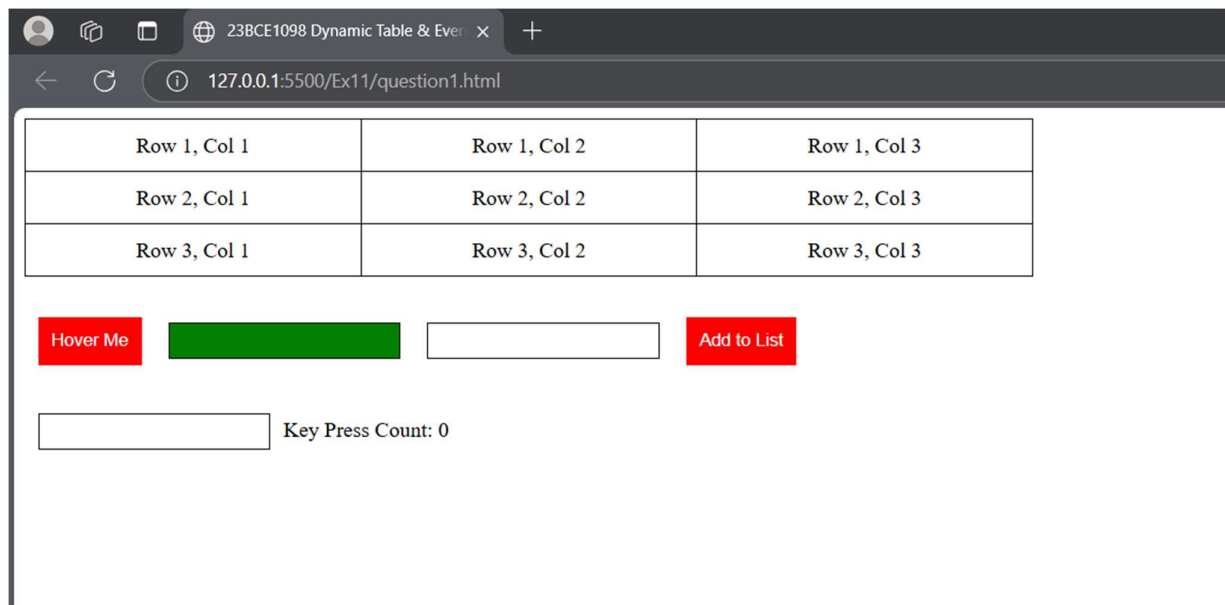
document.body.appendChild(inputField);
document.body.appendChild(addButton);
document.body.appendChild(ul);

let keyInput = document.createElement("input");
keyInput.type = "text";
let keyCounter = document.createElement("span");
let count = 0;
keyCounter.textContent = `Key Press Count: ${count}`;

keyInput.onkeydown = function () {
    count++;
    keyCounter.textContent = `Key Press Count: ${count}`;
};

document.body.appendChild(keyInput);
document.body.appendChild(keyCounter);
});
</script>
</body>
</html>
```

## Output:



## Question 02

### Code:

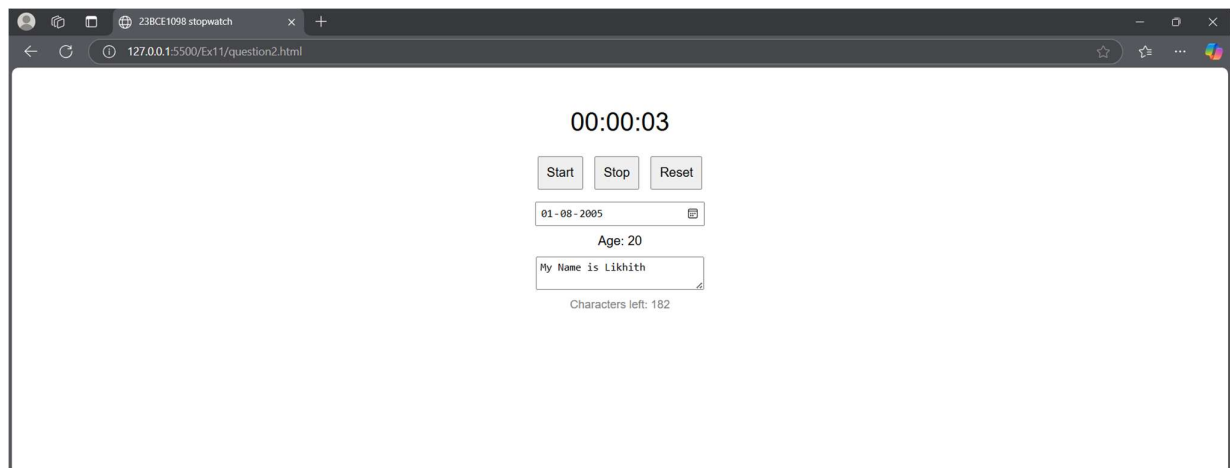
```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>23BCE1098 stopwatch</title>
    <style>
      body {
        font-family: Arial, sans-serif;
        text-align: center;
        margin: 50px;
      }
      #stopwatch {
        font-size: 2em;
        margin: 20px;
      }
      button {
        margin: 5px;
        padding: 10px;
        font-size: 1em;
        cursor: pointer;
      }
      input,
      textarea {
        display: block;
        margin: 10px auto;
        padding: 5px;
        width: 200px;
      }
      #charCount {
        font-size: 0.9em;
        color: gray;
      }
    </style>
  </head>
  <body>
    <div>
      <div id="stopwatch">00:00:00</div>
      <button id="start">Start</button>
      <button id="stop">Stop</button>
      <button id="reset">Reset</button>
    </div>
```

```
<input type="date" id="dob" placeholder="Enter DOB" />
<div id="age"></div>
<textarea
  id="textarea"
  maxlength="200"
  placeholder="Type here..."
></textarea>
<div id="charCount">Characters left: 200</div>
<script>
  let timer,
      seconds = 0,
      minutes = 0,
      hours = 0;
  function updateTime() {
    seconds++;
    if (seconds === 60) {
      seconds = 0;
      minutes++;
    }
    if (minutes === 60) {
      minutes = 0;
      hours++;
    }
    document.getElementById("stopwatch").textContent = `${String(
      hours
    ).padStart(2, "0")}:${String(minutes).padStart(2, "0")}:${String(
      seconds
    ).padStart(2, "0")}`;
  }
  document.getElementById("start").addEventListener("click", () => {
    if (!timer) timer = setInterval(updateTime, 1000);
  });
  document.getElementById("stop").addEventListener("click", () => {
    clearInterval(timer);
    timer = null;
  });
  document.getElementById("reset").addEventListener("click", () => {
    clearInterval(timer);
    timer = null;
    seconds = minutes = hours = 0;
    document.getElementById("stopwatch").textContent = "00:00:00";
  });
  document.getElementById("dob").addEventListener("mouseover", () => {
    let dob = new Date(document.getElementById("dob").value);
    let age = new Date().getFullYear() - dob.getFullYear();
    document.getElementById("age").textContent = `Age: ${age}`;
  });
</script>
```

Name: Likhith B A  
Reg. No: 23BCE1098

```
});  
document.getElementById("textarea").addEventListener("input", () => {  
  let remaining = 200 - document.getElementById("textarea").value.length;  
  document.getElementById(  
    "charCount"  
  ).textContent = `Characters left: ${remaining}`;  
});  
</script>  
</body>  
</html>
```

## Output:



## Question 03

### Code:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>23BCE1098 JavaScript Form Validation</title>
    <style>
      body {
        font-family: Arial, sans-serif;
        margin: 20px;
      }
      .container {
        border: 1px solid black;
        padding: 20px;
        width: 600px;
      }
      label {
        display: block;
        margin-top: 10px;
      }
      input,
      select,
      textarea {
        width: 100%;
        padding: 5px;
        margin-top: 5px;
      }
      .error {
        color: red;
        font-size: 0.9em;
      }
      #time {
        position: absolute;
        top: 10px;
        right: 10px;
        border: 1px solid black;
        padding: 5px;
      }
    </style>
  </head>
  <body>
    <div class="container">
```

```
<h2>Test JavaScript Form Validation</h2>
<div id="time"></div>
<form id="validationForm">
  <label>Name* <input type="text" name="name" id="name" /></label>
  <label>Address <textarea id="address"></textarea></label>
  <label>Zip Code* <input type="text" id="zip" /></label>
  <label>
    >Country*
    <select id="country">
      <option value="">Please select...</option>
      <option value="India">India</option>
      <option value="USA">USA</option>
    </select></label>
  >
  <label>
    >Gender* <input type="radio" name="gender" value="Male" /> Male
    <input type="radio" name="gender" value="Female" /> Female</label>
  >
  <label>
    >Preferences*
    <input type="checkbox" name="preferences" value="Red" /> Red
    <input type="checkbox" name="preferences" value="Green" /> Green
    <input type="checkbox" name="preferences" value="Blue" /> Blue</label>
  >
  <label>Phone* <input type="text" id="phone" /></label>
  <label>Email* <input type="text" id="email" /></label>
  <label>
    >Password (8-15 characters)* <input type="password" id="password"
  /></label>
  <label>
    >Verify Password* <input type="password" id="verifyPassword"
  /></label>
  <label>PAN No* <input type="text" id="pan" /></label>
  <button type="submit">SEND</button>
  <button type="reset">CLEAR</button>
</form>
</div>
<script src="script.js"></script>
</body>
</html>
```

## JAVASCRIPT

```
function updateTime() {
  document.getElementById("time").textContent = new Date().toLocaleTimeString();
}
```



```
}
setInterval(updateTime, 1000);
document
.getElementById("validationForm")
.addEventListener("submit", function (event) {
    event.preventDefault();
    let name = document.getElementById("name").value;
    let zip = document.getElementById("zip").value;
    let phone = document.getElementById("phone").value;
    let email = document.getElementById("email").value;
    let password = document.getElementById("password").value;
    let verifyPassword = document.getElementById("verifyPassword").value;
    let pan = document.getElementById("pan").value;
    let country = document.getElementById("country").value;
    let gender = document.querySelector("input[name='gender']:checked");
    let preferences = document.querySelectorAll(
        "input[name='preferences']:checked"
    );
    if (
        !name ||
        !zip ||
        !phone ||
        !email ||
        !password ||
        !verifyPassword ||
        !pan ||
        !country ||
        !gender ||
        preferences.length === 0
    ) {
        alert("All mandatory fields must be filled!");
        return;
    }
    if (name.length > 15) {
        alert("Name should not exceed 15 characters");
        return;
    }
    if (!/^[0-9]{6}$/.test(zip)) {
        alert("Zip code must be numeric and 6 digits");
        return;
    }
    if (!/^[0-9]{10}$/.test(phone)) {
        alert("Phone number must be numeric and 10 digits");
        return;
    }
    if (!/^[^\\s@]+@[^\\s@]+\\.^[^\\s@]+$/ .test(email)) {
```

```
    alert("Invalid email format");
    return;
}
if (
    !/^(?=.*[a-zA-Z])(?=.*\d)(?=.*[@$!%*?&])[A-Za-z\d@$!%*?&]{8,15}$/.test(
        password
    )
) {
    alert(
        "Password must contain letters, numbers, special characters, and be 8-15 characters long"
    );
    return;
}
if (password !== verifyPassword) {
    alert("Passwords do not match");
    return;
}
if (!/^[A-Z]{5}[0-9]{4}[A-Z]{1}$/.test(pan)) {
    alert("Invalid PAN number format");
    return;
}
alert("Form submitted successfully!");
});
```

## Output:

The screenshot displays a web browser window with the title '23BCE1098 JavaScript Form Valid...'. The address bar shows '127.0.0.1:5500/Ex11/question3.html'. The page content is a form titled 'Test JavaScript Form Validation'. The form includes the following fields and controls:

- Name\* (text input)
- Address (text input)
- Zip Code\* (text input)
- Country\* (dropdown menu with 'Please select...' text)
- Gender\* (radio buttons for Male and Female)
- Preferences\* (checkboxes for Red, Green, and Blue)
- Phone\* (text input)
- Email\* (text input)
- Password (8-15 characters)\* (text input)
- Verify Password\* (text input)
- PAN No\* (text input)
- SEND and CLEAR buttons at the bottom left.

The browser's status bar at the bottom right indicates the time as 10:50:40 pm.