# Unit 3,4,5
# Assignment

**1. JavaScript to print hello in <p> tag.**

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

   <script>
      // Select the paragraph element by its ID
      const paragraph = document.getElementById("message");

      // Set the text content of the paragraph
      paragraph.textContent = "Hello";
   </script>
</body>
</html>
```

**2. Write an example of event in key press**.

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Key Press Event</title>
</head>
<body>
   <h1>Press any key!</h1>
   <p id="output"></p>

   <script>
      // Add an event listener to the document for keydown events
      document.addEventListener("keydown", function(event) {
         // Get the <p> element
```

```
        const output = document.getElementById("output");

        // Display the pressed key
        output.textContent = `You pressed: ${event.key}`;
      });
  </script>
</body>
</html>
```

**3. Write an example of event in key up.**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Key Up Event</title>
</head>
<body>
  <h1>Type something in the input box</h1>
  <input type="text" id="inputBox" placeholder="Start typing..." />
  <p id="output"></p>

  <script>
    // Select the input box
    const inputBox = document.getElementById("inputBox");

    // Add an event listener for the keyup event
    inputBox.addEventListener("keyup", function(event) {
      // Get the <p> element
      const output = document.getElementById("output");

      // Display the key released
      output.textContent = `You released: ${event.key}`;
    });
  </script>
</body>
</html>
```

**4. Write an example of event in key down.**

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Key Down Event</title>
</head>
<body>
   <h1>Press and hold any key</h1>
   <input type="text" id="inputBox" placeholder="Type here..." />
   <p id="output"></p>

   <script>
      // Select the input box
      const inputBox = document.getElementById("inputBox");

      // Add an event listener for the keydown event
      inputBox.addEventListener("keydown", function(event) {
         // Get the <p> element
         const output = document.getElementById("output");

         // Display the key that is being pressed
         output.textContent = `You are holding: ${event.key}`;
      });
   </script>
</body>
</html>
```

**5. Write an example of Mouse event click.**

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
```

```
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Mouse Click Event</title>
    <style>
        #button {
            padding: 10px 20px;
            font-size: 16px;
            background-color: lightblue;
            border: none;
            cursor: pointer;
        }

        #button:hover {
            background-color: deepskyblue;
        }
    </style>
</head>
<body>
    <h1>Click the Button</h1>
    <button id="button">Click Me!</button>
    <p id="output"></p>

    <script>
        // Select the button element
        const button = document.getElementById("button");

        // Add an event listener for the click event
        button.addEventListener("click", function() {
            // Get the <p> element
            const output = document.getElementById("output");

            // Update the text content
            output.textContent = "Button was clicked!";
        });
    </script>
</body>
</html>
```

**6. Write an example of Mouse event double click.**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Mouse Double Click Event</title>
  <style>
    #box {
      width: 200px;
      height: 200px;
      background-color: lightcoral;
      display: flex;
      align-items: center;
      justify-content: center;
      border: 2px solid darkred;
      cursor: pointer;
    }

    #box:hover {
      background-color: tomato;
    }
  </style>
</head>
<body>
  <h1>Double Click the Box</h1>
  <div id="box">Double-click me!</div>
  <p id="output"></p>

  <script>
    // Select the box element
    const box = document.getElementById("box");

    // Add an event listener for the double-click event
    box.addEventListener("dblclick", function() {
```

```
        // Get the <p> element
        const output = document.getElementById("output");

        // Update the text content
        output.textContent = "Box was double-clicked!";
      });
    </script>
</body>
</html>
```

**7. Write an example of Mouse event mouse enter.**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Mouse Enter Event</title>
    <style>
        #box {
            width: 200px;
            height: 200px;
            background-color: lightgreen;
            display: flex;
            align-items: center;
            justify-content: center;
            border: 2px solid darkgreen;
            text-align: center;
            transition: background-color 0.3s ease;
        }

        #box:hover {
            cursor: pointer;
        }
    </style>
</head>
<body>
    <h1>Move your mouse over the box</h1>
```

```
    <div id="box">Hover over me!</div>
    <p id="output"></p>

    <script>
        // Select the box element
        const box = document.getElementById("box");

        // Add an event listener for the mouseenter event
        box.addEventListener("mouseenter", function() {
            // Get the <p> element
            const output = document.getElementById("output");

            // Update the text content
            output.textContent = "Mouse entered the box!";

            // Change the background color
            box.style.backgroundColor = "darkgreen";
            box.style.color = "white";
        });
    </script>
</body>
</html>
```

**8. Write an example of Mouse event mouse leave.**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Mouse Leave Event</title>
    <style>
        #box {
            width: 200px;
            height: 200px;
            background-color: lightblue;
            display: flex;
            align-items: center;
```

```
        justify-content: center;
        border: 2px solid darkblue;
        text-align: center;
        transition: background-color 0.3s ease;
      }

      #box:hover {
        cursor: pointer;
      }
    </style>
</head>
<body>
    <h1>Move your mouse out of the box</h1>
    <div id="box">Hover over me!</div>
    <p id="output"></p>

    <script>
      // Select the box element
      const box = document.getElementById("box");

      // Add an event listener for the mouseleave event
      box.addEventListener("mouseleave", function() {
        // Get the <p> element
        const output = document.getElementById("output");

        // Update the text content
        output.textContent = "Mouse left the box!";

        // Reset the background color
        box.style.backgroundColor = "lightblue";
        box.style.color = "black";
      });
    </script>
</body>
</html>
```

**9. JavaScript to perform simple validation.**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Simple Form Validation</title>
    <style>
        .error {
            color: red;
            font-size: 0.9em;
        }
        form {
            width: 300px;
            margin: auto;
        }
        input {
            margin-bottom: 10px;
            padding: 5px;
            width: 100%;
        }
    </style>
</head>
<body>
    <h1>Registration Form</h1>
    <form id="registrationForm">
        <label for="username">Username:</label>
        <input type="text" id="username" name="username" />
        <span id="usernameError" class="error"></span>

        <label for="email">Email:</label>
        <input type="email" id="email" name="email" />
        <span id="emailError" class="error"></span>

        <label for="password">Password:</label>
        <input type="password" id="password" name="password" />
```

```
    <span id="passwordError" class="error"></span>

    <button type="submit">Register</button>
</form>

<script>
    // Select the form and inputs
    const form = document.getElementById("registrationForm");
    const username = document.getElementById("username");
    const email = document.getElementById("email");
    const password = document.getElementById("password");

    // Error elements
    const usernameError = document.getElementById("usernameError");
    const emailError = document.getElementById("emailError");
    const passwordError = document.getElementById("passwordError");

    // Form validation on submit
    form.addEventListener("submit", function(event) {
        let isValid = true;

        // Clear previous errors
        usernameError.textContent = "";
        emailError.textContent = "";
        passwordError.textContent = "";

        // Validate username
        if (username.value.trim() === "") {
            usernameError.textContent = "Username is required.";
            isValid = false;
        }

        // Validate email
        const emailRegex = /^[^\s@]+@[^\s@]+\.[^\s@]+$/;
        if (email.value.trim() === "") {
            emailError.textContent = "Email is required.";
```

```
            isValid = false;
        } else if (!emailRegex.test(email.value.trim())) {
            emailError.textContent = "Please enter a valid email address.";
            isValid = false;
        }

        // Validate password
        if (password.value.trim().length < 6) {
            passwordError.textContent = "Password must be at least 6 characters long.";
            isValid = false;
        }

        // If form is not valid, prevent submission
        if (!isValid) {
            event.preventDefault();
        }
    });
  </script>
</body>
</html>
```

**10. Make a registration form to perform each field validation, like name minimum 4 word, email format, make strong password, mobile no 10 digits.**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Registration Form with Validation</title>
  <style>
    .error {
      color: red;
      font-size: 0.9em;
    }
    form {
      width: 350px;
```

```
        margin: auto;
        padding: 10px;
        border: 1px solid #ddd;
        border-radius: 5px;
        box-shadow: 2px 2px 10px rgba(0, 0, 0, 0.1);
      }
      input {
        width: 100%;
        margin-bottom: 10px;
        padding: 8px;
        font-size: 1em;
      }
      button {
        padding: 10px;
        font-size: 1em;
        color: white;
        background-color: blue;
        border: none;
        cursor: pointer;
      }
      button:hover {
        background-color: darkblue;
      }
    </style>
  </head>
  <body>
    <h1>Registration Form</h1>
    <form id="registrationForm">
      <label for="name">Full Name:</label>
      <input type="text" id="name" name="name" placeholder="Enter your full name">
      <span id="nameError" class="error"></span>

      <label for="email">Email:</label>
      <input type="email" id="email" name="email" placeholder="Enter your email">
      <span id="emailError" class="error"></span>
```

```
    <label for="password">Password:</label>
    <input type="password" id="password" name="password" placeholder="Create a strong password">
    <span id="passwordError" class="error"></span>

    <label for="mobile">Mobile No:</label>
    <input type="text" id="mobile" name="mobile" placeholder="Enter your 10-digit mobile number">
    <span id="mobileError" class="error"></span>

    <button type="submit">Register</button>
</form>

<script>
    // Select form and input fields
    const form = document.getElementById("registrationForm");
    const name = document.getElementById("name");
    const email = document.getElementById("email");
    const password = document.getElementById("password");
    const mobile = document.getElementById("mobile");

    // Select error elements
    const nameError = document.getElementById("nameError");
    const emailError = document.getElementById("emailError");
    const passwordError = document.getElementById("passwordError");
    const mobileError = document.getElementById("mobileError");

    // Form validation on submit
    form.addEventListener("submit", function(event) {
        let isValid = true;

        // Clear previous errors
        nameError.textContent = "";
        emailError.textContent = "";
        passwordError.textContent = "";
        mobileError.textContent = "";

        // Validate name (minimum 4 words)
```

```
        if (name.value.trim().split(" ").length < 4) {
            nameError.textContent = "Name must have at least 4 words.";
            isValid = false;
        }

        // Validate email format
        const emailRegex = /^[^\s@]+@[^\s@]+\.[^\s@]+$/;
        if (email.value.trim() === "") {
            emailError.textContent = "Email is required.";
            isValid = false;
        } else if (!emailRegex.test(email.value.trim())) {
            emailError.textContent = "Please enter a valid email.";
            isValid = false;
        }

        // Validate password (minimum 8 characters, including uppercase, lowercase, digit, and special character)
        const passwordRegex = /^(?=.*[a-z])(?=.*[A-Z])(?=.*\d)(?=.*[@$!%*?&#])[A-Za-z\d@$!%*?&#]{8,}$/;
        if (!passwordRegex.test(password.value)) {
            passwordError.textContent =
                "Password must be at least 8 characters long, with uppercase, lowercase, number, and special
character.";
            isValid = false;
        }

        // Validate mobile number (10 digits)
        const mobileRegex = /^\d{10}$/;
        if (!mobileRegex.test(mobile.value)) {
            mobileError.textContent = "Mobile number must be exactly 10 digits.";
            isValid = false;
        }

        // Prevent form submission if validation fails
        if (!isValid) {
            event.preventDefault();
        }
    });
</script>
```

```
</body>
</html>
```

11. Make JavaScript examples to call function.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Function Call Example</title>
</head>
<body>
  <h1>Basic Function Call</h1>
  <button onclick="greet()">Click me to say hello</button>

  <script>
    function greet() {
      alert("Hello, welcome to the website!");
    }
  </script>
</body>
</html>
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Function with Parameters</title>
</head>
<body>
  <h1>Function with Parameters</h1>
  <button onclick="showMessage('Alice')">Click to Greet Alice</button>
  <button onclick="showMessage('Bob')">Click to Greet Bob</button>

  <script>
```

```
    function showMessage(name) {
        alert("Hello, " + name + "!");
    }
  </script>
</body>
</html>
```

**12. Write an example to pass parameter in function.**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Function with Default Parameters</title>
</head>
<body>
  <h1>Function with Default Parameters</h1>
  <button onclick="greetUser('John')">Greet John</button>
  <button onclick="greetUser()">Greet Default User</button>

  <script>
    function greetUser(name = "Guest") {
        alert("Hello, " + name + "!");
    }
  </script>
</body>
</html>
```

**13. Write an example to return two numb we sum.**

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

```
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Sum of Two Numbers</title>
</head>
<body>
    <h1>Sum of Two Numbers</h1>
    <label for="num1">Enter first number:</label>
    <input type="number" id="num1" placeholder="Enter a number">
    <br>
    <label for="num2">Enter second number:</label>
    <input type="number" id="num2" placeholder="Enter a number">
    <br><br>
    <button onclick="calculateSum()">Calculate Sum</button>
    <p id="result"></p>

    <script>
        function addNumbers(a, b) {
            return a + b; // Return the sum of a and b
        }

        function calculateSum() {
            // Get the input values
            const num1 = parseFloat(document.getElementById("num1").value);
            const num2 = parseFloat(document.getElementById("num2").value);

            // Validate inputs
            if (isNaN(num1) || isNaN(num2)) {
                document.getElementById("result").textContent = "Please enter valid numbers.";
                return;
            }

            // Call the addNumbers function and display the result
            const sum = addNumbers(num1, num2);
            document.getElementById("result").textContent = "The sum is: " + sum;
        }
    </script>
```

```
</body>
</html>
```

**14. Write an example of simple object.**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Simple Object Example</title>
</head>
<body>
  <h1>Simple Object Example</h1>
  <button onclick="showPersonDetails()">Show Person Details</button>
  <p id="output"></p>

  <script>
    // Define a simple object
    const person = {
      name: "John Doe",
      age: 30,
      profession: "Software Developer",
      greet: function() {
        return `Hello, my name is ${this.name} and I am a ${this.profession}.`;
      }
    };

    // Function to display person details
    function showPersonDetails() {
      const output = `
        Name: ${person.name}<br>
        Age: ${person.age}<br>
        Profession: ${person.profession}<br>
        Greeting: ${person.greet()}
      `;
```

```
        document.getElementById("output").innerHTML = output;
    }
  </script>
</body>
</html>
```

### 15. Write a example of DOM methods.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>DOM Methods Example</title>
  <style>
    #message {
      font-size: 1.2em;
      color: blue;
    }
  </style>
</head>
<body>
  <h1>DOM Methods Example</h1>

  <!-- Elements to interact with -->
  <p id="message">Original Text</p>
  <input type="text" id="inputField" placeholder="Type something..." />
  <button onclick="changeText()">Change Text</button>
  <button onclick="addNewElement()">Add New Element</button>
  <ul id="list">
    <li>Item 1</li>
    <li>Item 2</li>
  </ul>

  <script>
    // Example 1: Accessing an element and changing its text
```

```
    function changeText() {
        const message = document.getElementById("message"); // Access element by ID
        const inputValue = document.getElementById("inputField").value; // Get input field value
        if (inputValue.trim() === "") {
            message.textContent = "Please type something!";
        } else {
            message.textContent = inputValue; // Change the text content
        }
    }

    // Example 2: Creating and appending a new element
    function addNewElement() {
        const list = document.getElementById("list"); // Get the list element
        const newItem = document.createElement("li"); // Create a new list item
        newItem.textContent = "New Item"; // Set its text content
        list.appendChild(newItem); // Append the new item to the list
    }
  </script>
</body>
</html>
```

**16. Use trim() in JavaScript.**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>JavaScript trim() Example</title>
</head>
<body>
  <h1>Using trim() in JavaScript</h1>
  <label for="userInput">Enter text (with spaces):</label>
  <input type="text" id="userInput" placeholder="Type here...">
  <button onclick="processInput()">Submit</button>
  <p id="output"></p>
```

```
  <script>
    function processInput() {
      // Get the user's input
      const input = document.getElementById("userInput").value;

      // Trim the input to remove extra spaces
      const trimmedInput = input.trim();

      // Display the trimmed and original input
      document.getElementById("output").innerHTML = `
        <strong>Original Input:</strong> "${input}"<br>
        <strong>Trimmed Input:</strong> "${trimmedInput}"
      `;
    }
  </script>
</body>
</html>
```

**17. Write an example button click to open alert dialog box.**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Alert Dialog Example</title>
</head>
<body>
  <h1>Button Click Alert Example</h1>
  <button onclick="showAlert()">Click Me</button>

  <script>
    function showAlert() {
      alert("Hello! This is an alert dialog box.");
    }
```

```
  </script>
</body>
</html>
```

**18. Write an example button click to open alert Confirm box.**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Confirm Box Example</title>
</head>
<body>
  <h1>Button Click Confirm Box Example</h1>
  <button onclick="showConfirm()">Click Me</button>
  <p id="result"></p>

  <script>
    function showConfirm() {
      // Display a confirm dialog box
      const userResponse = confirm("Do you want to proceed?");

      // Handle the user's response
      if (userResponse) {
        document.getElementById("result").textContent = "You clicked OK!";
      } else {
        document.getElementById("result").textContent = "You clicked Cancel.";
      }
    }
  </script>
</body>
</html>
```

**19. Write an example button click to open alert Prompt box.**

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

```
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Prompt Box Example</title>
</head>
<body>
  <h1>Button Click Prompt Box Example</h1>
  <button onclick="showPrompt()">Click Me</button>
  <p id="result"></p>

  <script>
    function showPrompt() {
      // Display a prompt dialog box
      const userInput = prompt("What is your name?");

      // Handle the user's response
      if (userInput === null || userInput.trim() === "") {
        document.getElementById("result").textContent = "You canceled or entered no name.";
      } else {
        document.getElementById("result").textContent = `Hello, ${userInput}!`;
      }
    }
  </script>
</body>
</html>
```

20. Write example of break and continue statement.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Break and Continue Example</title>
</head>
<body>
  <h1>Break and Continue Example</h1>
```

```
    <button onclick="demoBreak()">Show Break Example</button>
    <button onclick="demoContinue()">Show Continue Example</button>
    <p id="output"></p>

    <script>
        // Example of break statement
        function demoBreak() {
            let result = "Numbers before break: ";
            for (let i = 1; i <= 10; i++) {
                if (i === 5) {
                    break; // Exit the loop when i equals 5
                }
                result += i + " ";
            }
            document.getElementById("output").textContent = result;
        }

        // Example of continue statement
        function demoContinue() {
            let result = "Numbers skipping 5: ";
            for (let i = 1; i <= 10; i++) {
                if (i === 5) {
                    continue; // Skip the iteration when i equals 5
                }
                result += i + " ";
            }
            document.getElementById("output").textContent = result;
        }
    </script>
</body>
</html>
```

**21. Write an example of switch statement.**

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

```
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Switch Statement Example</title>
</head>
<body>
    <h1>Switch Statement Example</h1>
    <label for="day">Enter a day number (1-7):</label>
    <input type="number" id="day" placeholder="e.g., 1 for Monday">
    <button onclick="checkDay()">Check Day</button>
    <p id="result"></p>

    <script>
        function checkDay() {
            const dayNumber = parseInt(document.getElementById("day").value); // Get the input value
            let dayName;

            switch (dayNumber) {
                case 1:
                    dayName = "Monday";
                    break;
                case 2:
                    dayName = "Tuesday";
                    break;
                case 3:
                    dayName = "Wednesday";
                    break;
                case 4:
                    dayName = "Thursday";
                    break;
                case 5:
                    dayName = "Friday";
                    break;
                case 6:
                    dayName = "Saturday";
                    break;
```

```
            case 7:
                dayName = "Sunday";
                break;
            default:
                dayName = "Invalid day number! Please enter a number between 1 and 7.";
        }

        document.getElementById("result").textContent = dayName;
    }
  </script>
</body>
</html>
```

**22. For loop to print 10 numbers.**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>For Loop Example</title>
</head>
<body>
  <h1>For Loop Example</h1>
  <button onclick="printNumbers()">Print Numbers</button>
  <p id="output"></p>

  <script>
    function printNumbers() {
      let result = ""; // Initialize an empty string to store the numbers
      for (let i = 1; i <= 10; i++) { // Loop from 1 to 10
        result += i + " "; // Append each number to the result string
      }
      document.getElementById("output").textContent = result; // Display the result
    }
  </script>
```

```
</body>
</html>
```

**23. JavaScript in looping statement to print reverse number.**

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Reverse Loop Example</title>
</head>
<body>
   <h1>Reverse Number Loop Example</h1>
   <button onclick="printReverse()">Print Reverse Numbers</button>
   <p id="output"></p>

   <script>
      function printReverse() {
         let result = ""; // Initialize an empty string to store the numbers
         for (let i = 10; i >= 1; i--) { // Loop from 10 down to 1
            result += i + " "; // Append each number to the result string
         }
         document.getElementById("output").textContent = result; // Display the result
      }
   </script>
</body>
</html>
```

24. Print this pattern using JavaScript.

a.
```
    *
   **
  ***
 ****
*****
```

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

```
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Star Pattern Example</title>
</head>
<body>
   <h1>Star Pattern Example</h1>
   <button onclick="printPattern()">Print Pattern</button>
   <pre id="output"></pre>

   <script>
      function printPattern() {
         let result = ""; // Initialize an empty string to store the pattern

         // Loop to create each line with spaces and stars
         for (let i = 1; i <= 5; i++) {
            let spaces = " ".repeat(5 - i); // Calculate leading spaces
            let stars = "*".repeat(i); // Calculate number of stars for the current line
            result += spaces + stars + "\n"; // Combine spaces and stars and add to the result
         }

         // Display the pattern in the output element
         document.getElementById("output").textContent = result;
      }
   </script>
</body>
</html>
```

**25. JavaScript to check number is even or odd.**

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Even or Odd Checker</title>
</head>
<body>
   <h1>Even or Odd Number Checker</h1>
   <label for="number">Enter a number:</label>
   <input type="number" id="number" placeholder="Enter a number">
   <button onclick="checkEvenOdd()">Check</button>
   <p id="result"></p>

   <script>
      function checkEvenOdd() {
         const number = document.getElementById("number").value; // Get the input number
         let result = "";

         // Check if the number is even or odd
         if (number % 2 === 0) {
            result = `${number} is Even.`;
         } else {
            result = `${number} is Odd.`;
         }

         // Display the result
         document.getElementById("result").textContent = result;
```

```
    }
  </script>
</body>
</html>
```

**26. Write an example of all Date() methods.**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>JavaScript Date Methods</title>
</head>
<body>
  <h1>JavaScript Date Methods Example</h1>

  <button onclick="showDateMethods()">Show Date Methods</button>
  <pre id="output"></pre>

  <script>
    function showDateMethods() {
      const currentDate = new Date(); // Create a new Date object representing the current date and time

      let result = "Current Date and Time: " + currentDate + "\n\n";

      // Using different Date methods to show date and time
      result += "getFullYear(): " + currentDate.getFullYear() + "\n"; // Gets the full year (e.g., 2024)
      result += "getMonth(): " + currentDate.getMonth() + " (0-11, where 0 is January)\n"; // Gets the month
(0-11)
      result += "getDate(): " + currentDate.getDate() + "\n"; // Gets the day of the month (1-31)
      result += "getDay(): " + currentDate.getDay() + " (0-6, where 0 is Sunday)\n"; // Gets the day of the week
(0-6)
      result += "getHours(): " + currentDate.getHours() + "\n"; // Gets the hour (0-23)
      result += "getMinutes(): " + currentDate.getMinutes() + "\n"; // Gets the minutes (0-59)
      result += "getSeconds(): " + currentDate.getSeconds() + "\n"; // Gets the seconds (0-59)
      result += "getMilliseconds(): " + currentDate.getMilliseconds() + "\n"; // Gets the milliseconds (0-999)
      result += "getTime(): " + currentDate.getTime() + " (milliseconds since Jan 1, 1970)\n"; // Gets the
timestamp in milliseconds

      result += "\nOther Methods:\n";
      result += "toDateString(): " + currentDate.toDateString() + "\n"; // Converts to a string representation of
the date
      result += "toTimeString(): " + currentDate.toTimeString() + "\n"; // Converts to a string representation of
the time
      result += "toLocaleDateString(): " + currentDate.toLocaleDateString() + "\n"; // Converts to a localized
date string
      result += "toLocaleTimeString(): " + currentDate.toLocaleTimeString() + "\n"; // Converts to a localized
time string
      result += "toISOString(): " + currentDate.toISOString() + "\n"; // Converts to ISO string (e.g., "2024-11-
21T12:34:56.789Z")
      result += "toUTCString(): " + currentDate.toUTCString() + "\n"; // Converts to a UTC string

      // Setting a new date using the Date() constructor
      const newDate = new Date(2023, 10, 5, 10, 30, 0); // New date for November 5, 2023, 10:30 AM
      result += "\nCustom Date (Nov 5, 2023 10:30 AM): " + newDate.toString() + "\n";

      // Setting individual components using set methods
      newDate.setFullYear(2024); // Set year to 2024
      newDate.setMonth(4); // Set month to May (0-based index)
```

```
        newDate.setDate(15); // Set day to 15
        result += "Updated Custom Date (May 15, 2024): " + newDate.toString() + "\n";

        // Display the result
        document.getElementById("output").textContent = result;
      }
    </script>
</body>
</html>
```

**27. Write an example of page redirection.**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Page Redirection Example</title>
</head>
<body>
    <h1>JavaScript Page Redirection</h1>
    <button onclick="redirectPage()">Click to Redirect</button>

    <script>
        function redirectPage() {
            // Redirect to a different webpage (e.g., Google's homepage)
            window.location.href = "https://www.google.com"; // You can replace this URL with any other URL
        }
    </script>
</body>
</html>
```