**BCSE203E WEB PROGRAMMIMG**

**LAB EXERCISE -11**

**JavaScript DOM-Dynamic Elements, Event Handling, EventListener, Form Validation**

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REGISTRATION NO:23BCE1022

1.Write a JavaScript to (i) Create a dynamic table with three rows and three columns (ii) Change the color of the Button from red to green color on Mouse Over. (iii)Change the color of the Textbox from green to yellow color on Focus and display a greeting message on Change Note: Both button and textbox should be created using CreateElement (iv)Create an input field and a button. When the button is double clicked, add the input text as a new <li> item to an unordered list. (v) Create two input fields: one for accepting input and another for counting and displaying the number of times any key is pressed.

CODE:  
<html>

<head>

<title>23BCE1321</title>

<style>

#dynamicTable,

#unorderedList {

border: 2px solid black;

border-collapse: collapse;

}

td {

border: 1px solid black;

}

button {

padding: 10px;

font-size: 16px;

}

#textbox {

padding: 10px;

font-size: 16px;

}

</style>

</head>

<body>

<script>

const table = document.createElement("table");

table.setAttribute("id", "dynamicTable");

document.body.appendChild(table);

for (let i = 0; i < 3; i++) {

const row = document.createElement("tr");

table.appendChild(row);

for (let j = 0; j < 3; j++) {

const cell = document.createElement("td");

cell.textContent = `Row ${i + 1}, Column ${j + 1}`;

row.appendChild(cell);

}

}

const button = document.createElement("button");

button.textContent = "Submit";

button.style.backgroundColor = "red";

button.addEventListener("mouseover", () => {

button.style.backgroundColor = "green";

});

button.addEventListener("mouseout", () => {

button.style.backgroundColor = "red";

});

document.body.appendChild(button);

const textbox = document.createElement("input");

textbox.type = "text";

textbox.id = "textbox";

textbox.style.backgroundColor = "green";

textbox.addEventListener("focus", () => {

textbox.style.backgroundColor = "yellow";

});

textbox.addEventListener("change", () => {

alert("Hello!");

});

document.body.appendChild(textbox);

const inputField = document.createElement("input");

inputField.type = "text";

document.body.appendChild(inputField);

const ul = document.createElement("ul");

ul.id = "unorderedList";

document.body.appendChild(ul);

const addButton = document.createElement("button");

addButton.textContent = "Add Item";

addButton.addEventListener("dblclick", () => {

const li = document.createElement("li");

li.textContent = inputField.value;

ul.appendChild(li);

inputField.value = "";

});

document.body.appendChild(addButton);

const keyPressInput = document.createElement("input");

keyPressInput.type = "text";

document.body.appendChild(keyPressInput);

const countDisplay = document.createElement("div");

countDisplay.textContent = "Key Press Count: 0";

document.body.appendChild(countDisplay);

let keyPressCount = 0;

keyPressInput.addEventListener("keypress", () => {

keyPressCount++;

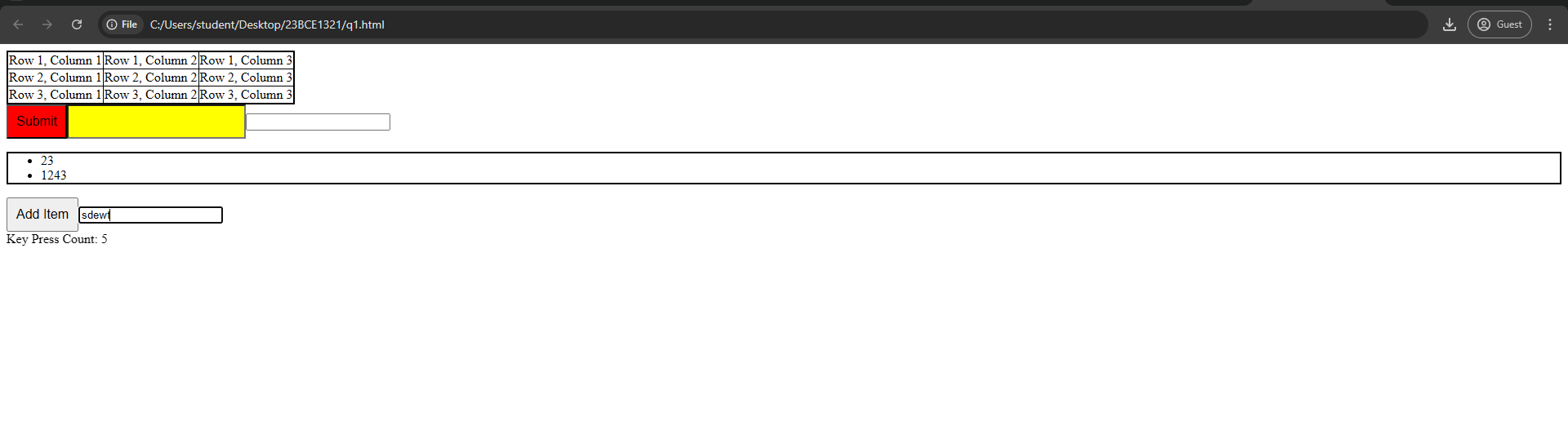
countDisplay.textContent = `Key Press Count: ${keyPressCount}`;

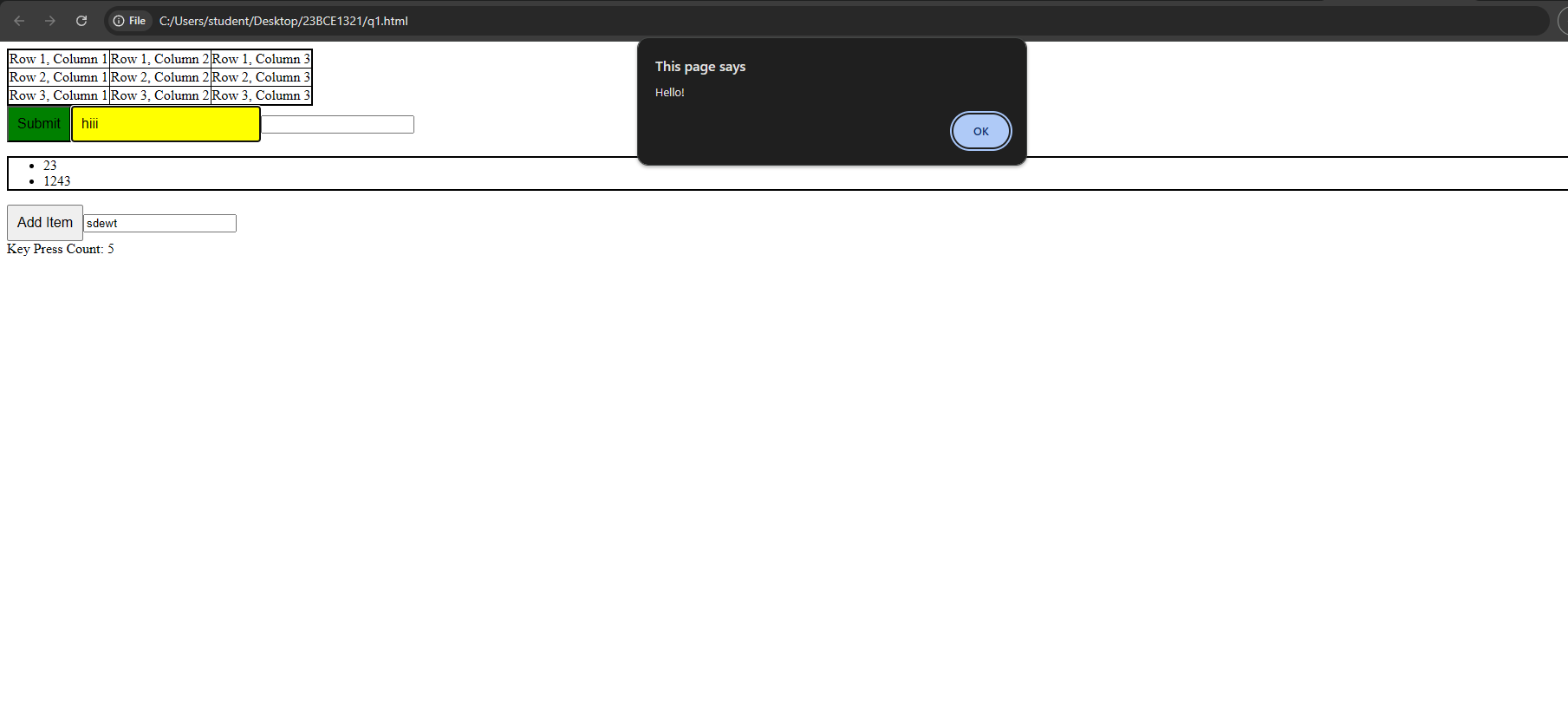
});

</script>

</body>

</html>

OUTPUT:  




2. . (i) Create a simple stopwatch with "Start", "Stop", and "Reset" buttons using JavaScript event listeners. (ii) Create a text box to accept the Date of Birth and calculate the age on mouseover using an event listener. (iii) Create a textarea with a character counter that updates dynamically as the user types using an event listener

CODE:  
<!DOCTYPE html>

<html>

<head>

<title>23BCE1022</title>

<style>

body {

font-family: Arial, sans-serif;

margin: 20px;

}

.container {

margin-bottom: 20px;

}

#stopwatch {

font-size: 1.5em;

margin-bottom: 10px;

}

.button-group button {

margin-right: 10px;

}

#dob-section {

margin-top: 20px;

}

#age {

font-weight: bold;

color: green;

}

#textarea-section {

margin-top: 20px;

}

#charCounter {

font-size: 0.9em;

color: #555;

}

</style>

</head>

<body>

<div class="container" id="stopwatch-section">

<h2>Stopwatch</h2>

<div id="stopwatch">00:00:00</div>

<div class="button-group">

<button id="startButton">Start</button>

<button id="stopButton">Stop</button>

<button id="resetButton">Reset</button>

</div>

</div>

<div class="container" id="dob-section">

<h2>Calculate Age</h2>

<label for="dob">Enter Date of Birth:</label>

<input type="date" id="dob" />

<div id="age"></div>

</div>

<div class="container" id="textarea-section">

<h2>Character Counter</h2>

<textarea

id="textArea"

rows="5"

cols="30"

placeholder="Type here..."

></textarea>

<div id="charCounter">Characters: 0</div>

</div>

<script>

let timer;

let elapsedTime = 0;

function formatTime(ms) {

const seconds = Math.floor(ms / 1000) % 60;

const minutes = Math.floor(ms / 60000) % 60;

const hours = Math.floor(ms / 3600000);

return (

String(hours).padStart(2, "0") +

":" +

String(minutes).padStart(2, "0") +

":" +

String(seconds).padStart(2, "0")

);

}

function updateStopwatch() {

elapsedTime += 1000;

document.getElementById("stopwatch").textContent =

formatTime(elapsedTime);

}

document.getElementById("startButton").addEventListener("click", () => {

if (!timer) {

timer = setInterval(updateStopwatch, 1000);

}

});

document.getElementById("stopButton").addEventListener("click", () => {

clearInterval(timer);

timer = null;

});

document.getElementById("resetButton").addEventListener("click", () => {

clearInterval(timer);

timer = null;

elapsedTime = 0;

document.getElementById("stopwatch").textContent = "00:00:00";

});

document.getElementById("dob").addEventListener("mouseover", () => {

const dob = document.getElementById("dob").value;

if (dob) {

const dobDate = new Date(dob);

const today = new Date();

let age = today.getFullYear() - dobDate.getFullYear();

const m = today.getMonth() - dobDate.getMonth();

if (m < 0 || (m === 0 && today.getDate() < dobDate.getDate())) {

age--;

}

document.getElementById("age").textContent = `Age: ${age} years`;

} else {

document.getElementById("age").textContent =

"Please enter your Date of Birth.";

}

});

document.getElementById("textArea").addEventListener("input", () => {

const textLength = document.getElementById("textArea").value.length;

document.getElementById(

"charCounter"

).textContent = `Characters: ${textLength}`;

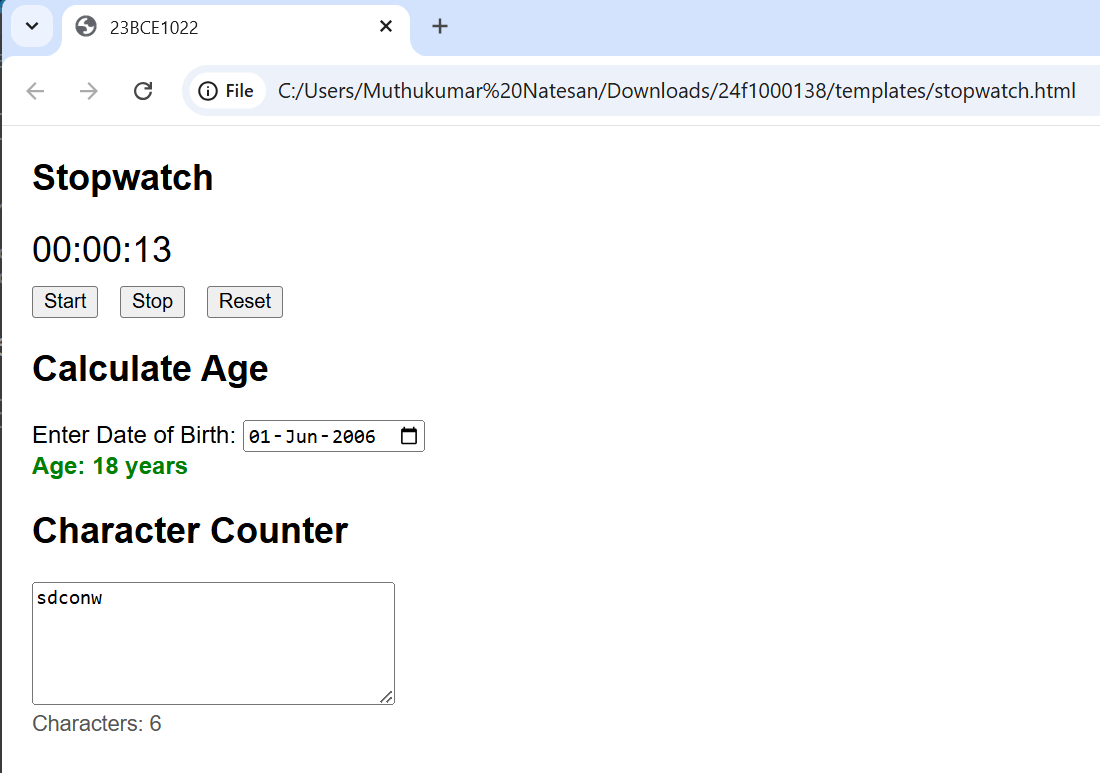
});

</script>

</body>

</html>

OUTPUT:



3. Design the below form and do the following (i) Set the timer to display the current time (ii) Print the form content. Use getElementsByName to display Gender, Country and Preferences (iii)Validate (a) All Mandatory Fields (represented by \*). If empty focus on the same field. (b) Name should not exceed 15 characters (c) Address – to be specified in Text Area (d) Zip code should be numeric and validated the maximum digits (e) Phone numbers should be numeric and validated the maximum digits 10 (f) e-mail syntax should be validated (g) Password should contain a number, character & a special character and length should not exceed 15 and recede 8 (h) PAN card number – Textbox (validate such that the PAN number is 10 digits and follows the pattern)

CODE:

<!DOCTYPE html>

<html>

<head>

    <title>23BCE1022</title>

    <style>

        .error { color: red; font-size: 14px; margin-left: 10px; }

        span { display: inline-block; min-width: 200px; }

    </style>

    <script>

        function displayTime() {

            let now = new Date();

            document.getElementById("time").innerHTML = now.getHours()+":"+now.getMinutes()+":"+now.getSeconds();

            setTimeout(displayTime, 1000);

        }

        function validateField(field, regex, message) {

            let value = field.value.trim();

            let errorSpan = document.getElementById(field.id + "-error");

            if (!regex.test(value)) {

                errorSpan.textContent = message;

                return false;

            } else {

                errorSpan.textContent = "";

                return true;

            }

        }

        function validateForm(event) {

            event.preventDefault();

            let isValid = true;

            isValid &= validateField(document.getElementById("name"), /^[A-Za-z\s]{1,15}$/, "Max 15 letters only");

            isValid &= validateField(document.getElementById("zip"), /^\d{5,6}$/, "Zip should be 5-6 digits");

            isValid &= validateField(document.getElementById("phone"), /^\d{10}$/, "Phone must be exactly 10 digits");

            isValid &= validateField(document.getElementById("email"), /^[a-zA-Z0-9.\_%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$/, "Invalid email");

            isValid &= validateField(document.getElementById("password"), /^(?=.\*[A-Za-z])(?=.\*\d)(?=.\*[@$!%\*#?&])[A-Za-z\d@$!%\*#?&]{8,15}$/, "8-15 chars, 1 letter, 1 number, 1 special char");

            isValid &= validateField(document.getElementById("pan"), /^[A-Z0-9]{10}$/, "PAN should be 10 uppercase letters/numbers");

            let password = document.getElementById("password").value;

            let confirmPassword = document.getElementById("password1").value;

            let confirmPasswordError = document.getElementById("password1-error");

            if (password !== confirmPassword) {

                confirmPasswordError.textContent = "Passwords do not match";

                isValid = false;

            } else {

                confirmPasswordError.textContent = "";

            }

            if (isValid) {

                document.getElementById("formMessage").innerHTML = "<b style='color:green;'>Form submitted successfully!</b>";

            }

        }

    </script>

</head>

<body onload="displayTime()" >

    <form id="myForm" onsubmit="validateForm(event)" >

        <fieldset>

            <h2>Test JavaScript Form Validation</h2> <div>Time: <span id="time"></span></div>

        <label for="name">Name:\*</label>

        <input type="text" id="name" oninput="validateField(this, /^[A-Za-z\s]{1,15}$/, 'Max 15 letters only')">

        <span id="name-error" class="error"></span><br>

        <label for="addr">Address:</label>

        <textarea id="addr"></textarea><br>

        <label for="zip">Zip Code:\*</label>

        <input type="text" id="zip" oninput="validateField(this, /^\d{5,6}$/, 'Zip should be 5-6 digits')">

        <span id="zip-error" class="error"></span><br>

        <label for="country">Country:\*</label>

        <select>

            <option>India</option>

            <option>USA</option>

            <option>Norway</option>

            <option>Dubai</option>

            <option>Japan</option>

            <option>Germany</option>

            <option>Finland</option>

        </select><br>

        <label for="gen">Gender:\*</label>

        <input type="radio" name="gender" value="Male">Male

        <input type="radio" name="gender" value="Female">Female<br>

        <label for="preferences">Preferences:\*</label>

        <input type="checkbox" value="Red">Red

        <input type="checkbox" value="Green">Green

        <input type="checkbox" value="Blue">Blue<br>

        <label for="phone">Phone:\*</label>

        <input type="text" id="phone" oninput="validateField(this, /^\d{10}$/, 'Phone number must be exactly 10 digits')">

        <span id="phone-error" class="error"></span><br>

        <label for="email">Email:\*</label>

        <input type="text" id="email" oninput="validateField(this, /^[a-zA-Z0-9.\_%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$/, 'Invalid email')">

        <span id="email-error" class="error"></span><br>

        <label for="password">Password:\*</label>

        <input type="password" id="password" oninput="validateField(this, /^(?=.\*[A-Za-z])(?=.\*\d)(?=.\*[@$!%\*#?&])[A-Za-z\d@$!%\*#?&]{8,15}$/, '8-15 chars, 1 letter, 1 number, 1 special char')">

        <span id="password-error" class="error"></span><br>

        <label for="password1">Verify password:\*</label>

        <input type="password" id="password1" oninput="validateField(document.getElementById('password1'), /^.\*$/, '')">

        <span id="password1-error" class="error"></span><br>

        <label for="pan">PAN No:\*</label>

        <input type="text" id="pan" oninput="validateField(this, /^[A-Z0-9]{10}$/, 'PAN should be 10 uppercase letters/numbers')">

        <span id="pan-error" class="error"></span><br>

        <button type="submit">SEND</button>

        <button type="reset">CLEAR</button>

    </fieldset>

    </form>

    <div id="formMessage"></div>

</body>

</html>

OUTPUT:  
