➢ Logical programs

➢ 1. Find the Longest Word in a String.

```html
<!DOCTYPE html>
<html lang="en">
<head>
<title></title>
</head>
<body>
    <h2>Find the Longest Word</h2>
    <input type="text" id="sentenceInput" placeholder="Enter sentence here" />
    <button type="submit" onclick="word()">Find Longest Word</button><br>
    <div id="result"></div>
    <script>
        function word() {
            let sentence = document.getElementById('sentenceInput').value.trim();
            if (sentence) {
                let words = sentence.split(' ');
                let longestWord = '';
                for (let word of words) {
                    if (word.length > longestWord.length) {
                        longestWord = word;
                    }
                }
                document.getElementById('result').innerHTML
                    =`The longest word is: "${longestWord}"`;
            }
            else {
                document.getElementById('result').innerHTML
                    ='Please enter a sentence.';
            }
        }
    </script>
</body>
</html>
```

➢ **2. Add List Items Dynamically game.**

```html
<html>
<head>
    <title>Add List Items</title>
    <style>
        ul {list-style: none;}
    </style>
</head>
<body>
    <h2>Dynamic List</h2>
    <input type="text" id="itemInput" placeholder="Enter an item" />
    <button onclick="addItem()">Add Item</button>
    <ul id="itemList"></ul>
    <script>
        let input = document.getElementById('itemInput');
        let button = document.getElementById('addItem');
        let list = document.getElementById('itemList');
        function addItem() {
            let itemText = input.value.trim();
            if (itemText) {
                let listItem = document.createElement('li');
                listItem.innerHTML = itemText;
                list.append(listItem);
                input.value = '';
            }
        }
    </script>
</body>
</html>
```

➢ 3. Password Strength Checker Game.

```html
<html lang="en">
<head>
</head>
<body>
    <h3>Password Strength Checker</h3>
    <input type="password" id="passwordInput" placeholder="Enter a password">
    <button onclick="checkPasswordStrength()">Check Password Strength</button>
    <div id="password"></div>
    <script>
        function checkPasswordStrength() {
            let password = document.getElementById('passwordInput').value;
            let strength = 'Weak';
            if (password.length >= 8 && /[A-Z]/.test(password) && /\d/.test(password)) {
                strength = 'Strong';
            }
            else if (password.length >= 6) {
                strength = 'Medium';
            }
            document.getElementById('password').innerText=`Password Strength: ${strength}`;
        }
    </script>
</body>
</html>
```

> **4. Rock, Paper, Scissors Game.**

```html
<html lang="en">
<head>
    <title></title>
    <style>
    button { font-size: 16px; padding: 10px; margin: 5px; }
    </style>
</head>
<body>
    <h1>Rock, Paper, Scissors Game</h1>
    <button onclick="play('rock')">Rock</button>
    <button onclick="play('paper')">Paper</button>
    <button onclick="play('scissors')">Scissors</button>
    <h1 id="result"></h1>
    <script>
        function play(userChoice) {
        const choices=['rock', 'paper', 'scissors'];
        const computerChoice=choices[Math.floor(Math.random() * 3)];
        let result;
        if (userChoice == computerChoice) {
            result = "It's a draw!";
        }
        else if (
            (userChoice=='rock' && computerChoice=='scissors') ||
            (userChoice=='paper' && computerChoice=='rock') ||
            (userChoice=='scissors' && computerChoice=='paper')
        ) {
            result="You win!";
        }
        else {
            result="You lose!";
        }
        document.getElementById('result').innerHTML = `You chose ${userChoice},
                Computer chose ${computerChoice}. ${result}`;
        }
    </script>
</body>
</html>
```