NAVODAYA INSTITUTE OF TECHNOLOGY, RAICHUR

DEPARMENT OF COMPUTER SCIENCE & ENGINEERING

Web Technology Lab

Program - 6

6. Apply HTML, CSS and JavaScript to design a simple calculator to perform the following operations: sum, product, difference, remainder, quotient, power, square-root and square.

Program :

```html
<!DOCTYPE html>

<head>
   <title>Simple Calculator | vtucode</title>
   <style>
     body {
        font-family: 'Arial', sans-serif;
        display: flex;
        justify-content: center;
        align-items: center;
        height: 100vh;
        margin: 0;
     }

     .calculator {
        background: #fff;
        padding: 20px;
        border-radius: 12px;
        box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);
        width: 320px;
        text-align: center;
     }

     h1 {
        border-radius: 8px;
        background: #000;
        font-size: 24px;
```

```css
      padding: 10px;
      color: #ffffff;
      margin-bottom: 30px;
}

input,
select,
button {
      width: 100%;
      margin: 10px 0;
      padding: 12px;
      border: 1px solid #0808081d;
      border-radius: 8px;
      font-size: 16px;
      box-sizing: border-box;
      transition: border-color 0.3s, box-shadow 0.3s;
}


#operation {
      cursor: pointer;
}


input:focus,
select:focus,
button:focus {
      outline: none;
      border-color: #007bff;
      box-shadow: 0 0 0 3px rgba(38, 143, 255, 0.25);
}

option {
      background-color: #fff;
      color: #000;
      padding: 10px;
      border: none;
}

option:hover {
      background-color: #f1f1f1;
}

button {
      background-color: #007bff;
      color: white;
```

```css
        border: none;
        cursor: pointer;
        font-size: 18px;
        transition: box-shadow 0.3s, transform 0.3s;
}

button:hover {
        box-shadow: 0 0 0 2px #fff, 0 0 0 4px #007bff;
}

button:focus {
        box-shadow: 0 0 0 2px #fff, 0 0 0 4px #007bff;
}


#result.error {
        background: #ffdddd;
        border-color: #ff0000;
}

#result.success {
        font-size: 17px;
        font-weight: 500;
        color: #000;
        background: #6ef08d38;
        border-color: #47e56d;
}

#result {
        font-size: 18px;
        color: #000000;
        border-radius: 8px;
        background: #afffe2;
        border: 1px solid #ccc;
        box-shadow: 0 2px 4px rgba(0, 0, 0, 0.1);
        transition: opacity 0.5s, transform 0.5s;
        opacity: 0;
        transform: translateY(-20px);
}


#result.show {
        cursor: not-allowed;
        opacity: 1;
        margin-top: 20px;
        padding: 15px;
```

```
        transform: translateY(0);
      }

    </style>
</head>

<body>
    <div class="calculator">
      <h1>Simple Calculator</h1>
      <form id="calculator-form">
        <input type="number" id="num1" placeholder="Enter first number"
required>
        <input type="number" id="num2" placeholder="Enter second number"
required>
        <select id="operation" required>
          <option value="">Select Operation</option>
          <option value="sum">Sum</option>
          <option value="product">Product</option>
          <option value="difference">Difference</option>
          <option value="remainder">Remainder</option>
          <option value="quotient">Quotient</option>
          <option value="power">Power</option>
          <option value="sqrt">Square Root</option>
          <option value="square">Square</option>
        </select>
        <button type="button" onclick="calculate()">Calculate</button>
      </form>
      <div id="result"></div>
    </div>
    <script>
    function calculate() {
      const num1 = parseFloat(document.getElementById('num1').value);
      const num2 = parseFloat(document.getElementById('num2').value);
      const operation = document.getElementById('operation').value;
      let result = '';
      let resultClass = 'success';

      if (isNaN(num1) || isNaN(num2)) {
        result = 'Please enter valid numbers.';
        resultClass = 'error';
      } else {
        switch (operation) {
          case 'sum':
            result = `Sum: ${num1 + num2}`;
            break;
          case 'product':
```

```javascript
                result = `Product: ${num1 * num2}`;
                break;
            case 'difference':
                result = `Difference: ${num1 - num2}`;
                break;
            case 'remainder':
                result = `Remainder: ${num1 % num2}`;
                break;
            case 'quotient':
                if (num2 === 0) {
                    result = 'Cannot divide by zero';
                    resultClass = 'error';
                } else {
                    result = `Quotient: ${num1 / num2}`;
                }
                break;
            case 'power':
                result = `Power: ${Math.pow(num1, num2)}`;
                break;
            case 'sqrt':
                if (num1 < 0 || num2 < 0) {
                    result = 'Square root is not defined for negative numbers';
                    resultClass = 'error';
                } else {
                    result = `Square Root of ${num1}: ${Math.sqrt(num1)} <br>
Square Root of ${num2}: ${Math.sqrt(num2)}`;
                }
                break;
            case 'square':
                result = `Square of ${num1}: ${Math.pow(num1, 2)} <br>
Square of ${num2}: ${Math.pow(num2, 2)}`;
                break;
            default:
                result = 'Please select an operation.';
                resultClass = 'error';
            }
        }

        const resultDiv = document.getElementById('result');
        resultDiv.innerHTML = result;
        resultDiv.classList.remove('show', 'error', 'success');
        resultDiv.classList.add(resultClass, 'show');
    }

    </script>
</body>
```

</html>

Simple Calculator

Enter first number

Enter second number

Select Operation

Calculate