```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Temperature Conversion Tool</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            text-align: center;
            background-color: black;
            color: white;
            margin: 0;
            padding: 0;
        }
        .container {
            background: #333;
            padding: 20px;
            margin: 50px auto;
            width: 300px;
            border-radius: 8px;
            box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);
        }
        input[type="number"] {
            padding: 10px;
            width: 100%;
            margin-bottom: 15px;
            font-size: 16px;
            border: 1px solid #ccc;
            border-radius: 5px;
        }
        button {
            padding: 10px 20px;
            font-size: 16px;
            color: white;
            background-color: #007bff;
            border: none;
            border-radius: 5px;
            cursor: pointer;
        }
        button:hover {
            background-color: #0056b3;
        }
        .result {
            margin-top: 20px;
            font-size: 18px;
            font-weight: bold;
        }
        label {
            font-size: 16px;
            margin-right: 10px;
        }
        .radio-group {
            text-align: left;
            margin-bottom: 15px;
        }
    </style>
</head>
<body>
    <div class="container">
        <h1>Temperature Converter</h1>
        <form id="conversionForm" onsubmit="return false;">
            <input type="number" id="temperature" placeholder="Enter temperature" required>
            <div class="radio-group">
                <label>
                    <input type="radio" name="conversionType" value="CtoF" checked>
                    Celsius to Fahrenheit
                </label><br>
                <label>
                    <input type="radio" name="conversionType" value="FtoC">
                    Fahrenheit to Celsius
                </label>
            </div>
```

```html
            <button type="button" onclick="convertTemperature()">Convert</button>
        </form>
        <div class="result" id="result">Result: </div>
    </div>

    <script>
        function convertTemperature() {
            // Get the temperature value and conversion type
            const temperature = parseFloat(document.getElementById('temperature').value);
            const conversionType =
document.querySelector('input[name="conversionType"]:checked').value;

            // Validate the input
            if (isNaN(temperature)) {
                alert("Please enter a valid temperature value.");
                return;
            }

            let result;

            // Perform the conversion
            if (conversionType === "CtoF") {
                result = (temperature * 9/5) + 32;
                document.getElementById('result').innerText = Result: ${temperature}°C =
${result.toFixed(2)}°F;
            } else if (conversionType === "FtoC") {
                result = (temperature - 32) * 5/9;
                document.getElementById('result').innerText = Result: ${temperature}°F =
${result.toFixed(2)}°C;
            }
        }
    </script>
</body>
</html>
```