

Step 7: Conditionals and Loops in JavaScript

Objective:

Students will learn how to use conditionals and loops in JavaScript to create dynamic and responsive web content.

Key Concepts:

Conditionals: if, else if, else statements.

Loops: for, while loops for iterating through data.

Teacher's Role:

1. Explain how conditionals are used to make decisions in code.
2. Demonstrate how loops help automate repetitive tasks.

Activity 1: Quiz Application Using Conditionals

Goal: Students will create a simple quiz application where the score is calculated based on user answers.

Steps:

1. Create a question form:
 - Explain how to create a form with questions and radio buttons for answers.
2. Write JavaScript to check answers:
 - Use conditionals to evaluate the user's answers and calculate the score.

Student Activity:

Create a new file quiz_app.html and write the following code:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```

    <title>Quiz App</title>
</head>
<body>
    <h1>Simple Quiz</h1>
    <form id="quizForm">
        <p>1. What is 2 + 2?</p>
        <input type="radio" name="q1" value="3"> 3<br>
        <input type="radio" name="q1" value="4"> 4<br>
        <input type="radio" name="q1" value="5"> 5<br>

        <p>2. What is the capital of France?</p>
        <input type="radio" name="q2" value="Berlin"> Berlin<br>
        <input type="radio" name="q2" value="Paris"> Paris<br>
        <input type="radio" name="q2" value="Madrid"> Madrid<br>

        <button type="button" onclick="checkAnswers()">Submit</button>
    </form>
    <p id="result"></p>

    <script>
        function checkAnswers() {
            var score = 0;
            var q1 = document.querySelector('input[name="q1"]:checked');
            var q2 = document.querySelector('input[name="q2"]:checked');

            if (q1 && q1.value === "4") score++;
            if (q2 && q2.value === "Paris") score++;

            document.getElementById("result").innerText = "Your score: " + score + "/2";
        }
    </script>
</body>
</html>

```

- Run it using Live Server and test the quiz by answering the questions.

Learning Outcome:

Students will understand how to use conditionals and loops to build more interactive and responsive applications.