# Build a JavaScript-Enhanced Web Page

**Scenario:**

You are tasked with creating a simple webpage that demonstrates core JavaScript concepts: embedding JavaScript in an HTML document, declaring variables, using control structures, and writing functions. This will help you reinforce your understanding of basic JavaScript syntax and its use in web development.

**Step 1: Create a New HTML File**

1. Select File

2. Select New File...

3. Name it index.html

4. Press enter

5. Select OK

**Step 2: Create the HTML Structure**

1. HTML Document Setup:

   - Use <!DOCTYPE html> for HTML5.

   - Add <html>, <head>, and <body> tags to structure the content.

   - Inside the <head> section, include:

     o A <title> tag with the title "JavaScript Lab".

     o A <meta> tag with charset="UTF-8".

   - In the <body>, add an <h1> heading saying, "Hello, JavaScript!".

**Step 3: Write JavaScript Code**

1. Embedding JavaScript:

   - Inside the <body>, add a <script> tag to embed JavaScript code.

   - Use console.log to print "Hello, World!" in the browser's console.

2. Declare Variables:

   - Inside the <script> tag, declare:

- A variable name using let with the value "Alice".

- A constant age with the value 30.

- A variable city using var with the value "New York".

- Print all three variables to the console using console.log.

3. Control Structure:

- Use an if statement to check if the variable age is greater than 18.

- If true, print "You are an adult" to the console.

4. Write a Simple Function:

- Create a function squareNumber that takes a parameter number and returns its square.

- Call the function with the argument 4 and print the result to the console.

**Step 4: Run your code**

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4. Write a Simple Function:

- Create a function squareNumber that takes a parameter number and returns its square.

- Call the function with the argument 4 and print the result to the console.

**HTML:**

```html
<!DOCTYPE html>
<html>
<head>
  <meta charset="UTF-8">
  <title>JavaScript Lab</title>
</head>
<body>
  <h1>Hello, JavaScript!</h1>

  <script>
    // Print message to the console
    console.log("Hello, World!");

    // Declare variables
    let name = "Alice";
    const age = 30;
    var city = "New York";

    // Print variables
    console.log("Name:", name);
    console.log("Age:", age);
    console.log("City:", city);

    // Control structure
    if (age > 18) {
      console.log("You are an adult");
    }

    // Function to square a number
    function squareNumber(number) {
      return number * number;
    }

    // Call the function and print result
    let result = squareNumber(4);
    console.log("Square of 4 is:", result);
  </script>
</body>
</html>
```