

## Understanding How JavaScript Works in HTML (Simple Explanation)

JavaScript can be used in two ways on a webpage:

- 1 **Embedded in HTML** (inside `<script>` tags)
  - 2 **In a separate JavaScript file** (with a `.js` extension)
- 

### 1 **Embedding JavaScript in an HTML File**

You can write JavaScript **directly inside** your HTML file using `<script>` tags.

*Example:*

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>JavaScript Example</title>
</head>
<body>

  <h1>Welcome to My Website</h1>
  <button onclick="sayHi()">Click Me</button>

  <script>
    function sayHi() {
      alert("Hello world!");
    }
  </script>

</body>
</html>
```

#### ◆ **How it Works:**

- The JavaScript function `sayHi()` is inside the `<script>` tags.
  - When the button is clicked, the function runs and shows an alert.
  - This method **works**, but it's better to keep JavaScript **separate** from HTML.
- 

### 2 **Using an External JavaScript File (.js file)**

Instead of writing JavaScript inside the HTML file, it's **better** to put it in a separate `.js` file.

*Step 1: Create a JavaScript File (script.js)*

```
function sayHi() {
  alert("Hello world!");
}
```

✓ **This file only contains JavaScript code** (no `<script>` tags).

*Step 2: Link the .js File in HTML*

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>External JavaScript</title>
</head>
```

```
<body>
```

```
<h1>Welcome to My Website</h1>
```

```
<button onclick="sayHi()">Click Me</button>
```

```
<script src="script.js"></script> <!-- Linking external JS file -->
```

```
</body>
```

```
</html>
```

### ⚡ **How it Works:**

- The browser loads the script.js file when the page loads.
- When the button is clicked, it runs the sayHi() function from the external file.

---

## 3▣ **Best Practices for JavaScript Placement**

✓ **Always put JavaScript at the end of the <body> section** to prevent delays in loading HTML and CSS.

✓ **Use external .js files** whenever possible for better organization.

✓ **Use multiple JavaScript files** if needed (script1.js, script2.js, etc.).

---

## 4▣ **Why Use External JavaScript Files?**

⚡ **Easier to maintain** (separates JavaScript from HTML).

⚡ **Faster page loading** (browser caches .js files).

⚡ **Better code organization** (especially for large projects).