What is JavaScript (JS)?

JavaScript (JS) is a scripting language used to make webpages interactive and dynamic. It runs inside the browser and allows you to control how elements behave — for example, showing messages, hiding sections, validating forms, or reacting to user actions like clicks or typing.

JavaScript works along with HTML (structure) and CSS (design). Together they form the core of web development: HTML for content, CSS for styling, and JavaScript for behavior.

Why We Use JavaScript

We use JavaScript to make webpages alive and interactive. It helps in changing content or styles dynamically, validating user inputs in forms, creating animations and effects, fetching or sending data without reloading the page (AJAX), and building web apps like calculators, games, and dashboards.

When We Use JavaScript

We use JS whenever we want the webpage to respond to user actions or update automatically. For example, when a user clicks a button, JS shows or hides content; when someone types in a form, JS checks if the input is correct; when data needs to load instantly, JS fetches it without refreshing the page.

Where We Use JavaScript

JavaScript is used on the client-side (inside browsers like Chrome, Firefox, Edge) for interactive web pages, and on the server-side using environments like Node.js to build web servers and apps. So, JS can run both in browsers and on servers.

Types of Using JavaScript

1. Inline JavaScript — written directly inside an HTML tag:

```
Click me
```

2. Internal JavaScript — written inside a script tag in the HTML file:

```
alert("Welcome to my webpage!");
```

3. External JavaScript — written in a separate .js file and linked with HTML:

If We Use JavaScript — What Happens on the Webpage

When JavaScript runs, it can change the behavior and appearance of the page without reloading it. For example, clicking a button can open a popup, typing in a box can instantly show suggestions, a form can be checked before sending, or a section can slide, fade, or animate smoothly. JavaScript makes the page dynamic and interactive — not just static text and images.

Other Frontend Programming Languages

Apart from JavaScript, some other frontend tools and languages include TypeScript (a superset of JavaScript that adds type checking), Dart (used with Flutter for web and mobile apps), Elm, ReasonML, or Svelte (alternative languages or frameworks that compile to JavaScript). However, JavaScript is the main and most widely used frontend language — all browsers understand it directly.