

Introduction to JavaScript

What is JavaScript?

JavaScript is a programming language used to make web pages interactive. It can control content updates, interactive maps, animated graphics, and much more. JavaScript runs inside the browser and works alongside HTML and CSS.

Why Use JavaScript?

- Adds interactivity to websites (e.g., forms, games, animations)
- Can create web apps, mobile apps, and even server-side apps (with Node.js)
- Works in all major browsers
- Easy to learn and widely used

How JavaScript Works

JavaScript runs in the user's browser. It can respond to actions like button clicks, form submissions, mouse movements, and more. It can change HTML content and CSS styles dynamically.

Basic Syntax Example

```
let name = 'Ali'; // Declares a variable  
let age = 25;  
alert('Hello, ' + name); // Shows a popup message
```

Declaring Variables in JavaScript

- var: Old way (function scoped)
- let: Modern way (block scoped)
- const: Like let, but value can't be changed

Simple Example with HTML and JavaScript

```
<!DOCTYPE html>  
  
<html>
```

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```
<body>
```

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

```
<script>
```

```
function sayHello() {  
    alert('Hello from JavaScript!');  
}
```

```
</script>
```

```
</body>
```

```
</html>
```

Tips for Learning JavaScript

- Practice with small examples daily
- Use browser developer tools to experiment
- Learn JavaScript with HTML and CSS together
- Try online coding platforms like JSFiddle or CodePen