

# Programming

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Programming is a way to talk to computers.

## ECMAScript

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**ES** stands for **ECMAScript**.

**ECMA** defines specifications of scripting language.

**ECMAScript** (/ˈɛkməskrɪpt/; ES) is a specification or standard that tells how scripting language should be.

The **ECMAScript** specification is a blueprint for creating a scripting language. **JavaScript** is an implementation of that blueprint.

It was created to ensure that different documents on javascript are talking about the same language

## Javascript

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JavaScript is a lightweight, interpreted, event-based, client-side, object-oriented programming language.

JavaScript is used to create client-side dynamic pages.

This is a scripting language for web pages.

JavaScript is not a compiled language, but it is a translated language. The JavaScript Translator (embedded in the browser) is responsible for translating the JavaScript code for the web browser.

## Features of JavaScript

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- **Scripting** : Javascript executes the client-side script in the browser.
- **Interpreter** : The browser interprets JavaScript code.
- **Event Handling** : Events are actions. Javascript provides event-handling options.

- **Light Weight** : As Javascript is not a compiled language, source code never changes to byte code before running time. Low-end devices can also run Javascript because of its lightweight feature.
- **Case Sensitive** : In Javascript, names, variables, keywords, and functions are case-sensitive.
- **Control Statements** : Javascript has control statements like if-else-if, switch case, and loop. Users can write complex code using these control statements.
- **Objects as first-class Citizens** : Javascript arrays, functions, and symbols are objects which can inherit the Object prototype properties. Objects being first-class citizens means Objects can do all tasks.
- **Supports Functional Programming** : Javascript functions can be an argument to another function, can call by reference, and can assign to a variable.
- **Dynamic Typing** : Javascript variables can have any value type. The same variable can have a string value, an integer value, or any other.
- **Client-side Validations** : Javascript client-side validations allow users to submit valid data to the server during a form submission.
- **Platform Independent** : Javascript will run in the same way in all systems with any operating system.

## Application of JavaScript

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JavaScript is used to create interactive websites. It is mainly used for:

- modifying an HTML page dynamically.
- changing the HTML contents or attributes
- changing CSS style
- hiding elements or showing the hidden html elements
- validating user input
- create cookies
- Displaying date and time,
- Displaying pop-up windows and dialog boxes (like an alert dialog box, confirm dialog box and prompt dialog box),
- Displaying clocks etc.
- Javascript user interaction does not require any communication with the server

## What can we build using JavaScript

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- Websites

- Web-server
- Game Development
- 3-D drawing
- Mobile apps
- Smart watch apps