

JS Functions

What is a Function?

A function is a **block of code** that runs when it is called.

Use:

- Reuse code
- Reduce repetition **Example:**

```
function add(a, b) {  
    return a + b;  
}  
  
add(2, 3); // 5
```

JS Objects

What is an Object?

An object stores **multiple values** using key–value pairs.

Example:

```
let student = {  
    name: "Aman",  age:  
    20  
};
```

JS Classes

What is a Class?

A class is a **blueprint** for creating objects.

Example:

```
class      Car      {  
constructor(name)  {  
this.name = name;  
}  
}  
  
let car1 = new Car("BMW");
```

JS Asynchronous JavaScript What is

Async JS?

Code that runs **without blocking** other code.

Examples:

- setTimeout
- Promises
- async / await setTimeout(() => { console.log("Hello"); }, 2000);

JS Modules

What are Modules?

Modules allow you to **split code into files**.

Example:

```
export function add(a, b) { return  
a + b;  
}  
  
import { add } from "./math.js";
```

JS Meta & Proxy

Meta Programming

Writing code that **controls other code**.

Proxy

Used to **customize object behavior**.

Example:

```
let obj = {};  
let proxy = new  
Proxy(obj, {  
  get(target,  
    prop) {  
    return "Hello";  
  }  
});
```

JS Typed Arrays

What are Typed Arrays?

Used to handle **binary data** (audio, video, files).

Example:

```
let arr = new Int8Array(5);
```

JS HTML DOM What is

DOM?

DOM lets JavaScript **change HTML elements**.

Example:

```
document.getElementById("demo").innerHTML = "Hello";
```

JS Window Object What is

Window?

The browser window controlled by JavaScript.

Example:

```
alert("Hello"); console.log(window.innerWidth);
```

JS Web APIs

What are Web APIs?

Browser-provided features.

Examples:

- Fetch API
 - Geolocation API
 - Local Storage `fetch("data.txt");`
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JS AJAX

What is AJAX?

Load data **without refreshing the page**.

Example:

```
let xhttp = new XMLHttpRequest();
xhttp.open("GET", "data.txt"); xhttp.send();
```

JS JSON

What is JSON?

Data format used to **store and transfer data**.

Example:

```
let data = '{"name":"John","age":30}; let  
obj = JSON.parse(data);
```

JS jQuery

What is jQuery?

A JavaScript library that makes JS **short and easy**.

Example:

```
$("#btn").click(function () { alert("Clicked");  
});
```

JS Graphics

Used for drawing graphics on web pages.

Types:

- Canvas
- **SVG Example:**

```
<canvas id="myCanvas"></canvas>
```

One-line Revision

- **Functions** → reusable code
- **Objects** → data storage
- **Classes** → object blueprint
- **Async JS** → non-blocking code
- **Modules** → split files
- **DOM** → control HTML
- **AJAX** → load data without refresh

- **JSON** → data format
 - **jQuery** → easy JS
 - **Graphics** → drawings
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