**🧩 Data Structures & Concepts**

**Arrays & Objects**

\* Arrays: ordered collections, use methods like `.push()`, `.pop()`, `.map()`.

\* Objects: key-value pairs, access with dot or bracket notation.

**Hoisting**

\* JS moves variable and function declarations to top during compilation.

\* `var` declarations are hoisted with undefined value.

\* `let` and `const` are hoisted but not initialized (temporal dead zone).

**🔷 1. Arrays in JavaScript**

An **array** is a collection of values, ordered and index-based.

**✅ Creating Arrays**

let fruits = ["apple", "banana", "cherry"];

let numbers = [1, 2, 3, 4];

let mixed = ["text", 123, true];

🔍 **Accessing Array Items**

console.log(fruits[0]); // "apple"

console.log(fruits.length); // 3

✏️ **Modifying Arrays**

fruits.push("grape"); // Add to end

fruits.pop(); // Remove from end

fruits.unshift("orange"); // Add to start

fruits.shift(); // Remove from start

**📌 Common Array Methods**

| **Method** | **Description** |
| --- | --- |
| push() | Add to end |
| pop() | Remove last |
| shift() | Remove first |
| unshift() | Add to beginning |
| map() | Returns new array after transformation |