Arrays in JavaScript are **ordered collections** of values that can hold multiple items in a single variable. These items can be of **any data type** — numbers, strings, objects, other arrays, etc.

**🔹 Declaring an Array**

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

let numbers = [1, 2, 3, 4, 5];

let mixed = [1, "hello", true, null];

You can also use the constructor:

let arr = new Array("a", "b", "c");

**🔹 Accessing Array Elements**

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

console.log(fruits[2]); // "mango"

**🔹 Array Properties and Methods**

**✅ .length – number of elements**

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

**✅ .push() – add to the end**

fruits.push("orange");

**✅ .pop() – remove from the end**

fruits.pop(); // removes "orange"

**✅ .shift() – remove from the beginning**

fruits.shift(); // removes "apple"

**✅ .unshift() – add to the beginning**

fruits.unshift("kiwi");

**✅ .indexOf() – find position**

console.log(fruits.indexOf("banana")); // 1

**✅ .includes() – check presence**

console.log(fruits.includes("mango")); // true

**🔹 Looping Through Arrays**

for(let i = 0; i < fruits.length; i++) {

console.log(fruits[i]);

}

OR using for...of:

for(let fruit of fruits) {

console.log(fruit);

}

OR using forEach():

fruits.forEach(function(fruit) {

console.log(fruit);

});

**🔹 Other Useful Methods**

* .map() – transforms each item and returns a new array
* .filter() – filters elements based on a condition
* .reduce() – reduces the array to a single value
* .slice() – extracts a portion
* .splice() – add/remove elements at a specific index
* .sort() – sorts the array
* .reverse() – reverses the order

**🔹 Example**

let numbers = [1, 2, 3, 4, 5];

let doubled = numbers.map(n => n \* 2);

console.log(doubled); // [2, 4, 6, 8, 10]

let evens = numbers.filter(n => n % 2 === 0);

console.log(evens); // [2, 4]