

7. Arrays

Q1. What is an array in JavaScript? How do you declare and initialize an array?

An array in JavaScript is a special type of variable that can store multiple values in a single variable. Instead of creating many separate variables, we can use an array to hold a list of data, such as names, numbers, or objects. Arrays are very useful when we need to work with a group of related values.

To declare and initialize an array, we use square brackets [].

Example:

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

```
let numbers = [10, 20, 30, 40];
```

Each item in an array has an index, starting from 0. So fruits[0] is "apple".

Q2. Explain the methods push(), pop(), shift(), and unshift() used in arrays.

JavaScript provides several built-in methods to manage arrays:

- `push()` → Adds an element at the end of the array
- `fruits.push("orange");`
- `pop()` → Removes the last element from the array
- `fruits.pop();`
- `shift()` → Removes the first element from the array
- `fruits.shift();`
- `unshift()` → Adds a new element at the beginning of the array
- `fruits.unshift("grapes");`