

JavaScript Objects & Arrays

1. JavaScript Objects

Objects are collections of key-value pairs. Each key is a string (or Symbol), and values can be of any type.

```
const person = {
  name: "Shekhar",
  age: 45,
  isEmployed: true,
  greet: function() {
    return "Hello, " + this.name;
  }
};

console.log(person.name);    // "Shekhar"
console.log(person["age"]);  // 45
console.log(person.greet()); // "Hello, Shekhar"
```

Adding/Modifying/Deleting Properties:

```
person.city = "Delhi";    // Add
person.age = 46;          // Modify
delete person.isEmployed; // Delete
```

2. JavaScript Arrays

Arrays are ordered collections of values. Each value has a numeric index starting from 0.

```
const colors = ["red", "green", "blue"];

console.log(colors[0]);    // "red"
colors.push("yellow");     // Add to end
colors.pop();              // Remove from end
colors.unshift("black");   // Add to start
colors.shift();            // Remove from start
```

Useful Array Methods:

```
const nums = [1, 2, 3, 4, 5];

nums.forEach(n => console.log(n));    // Loop through
const doubled = nums.map(n => n * 2);  // [2, 4, 6, 8, 10]
const even = nums.filter(n => n % 2 === 0); // [2, 4]
const total = nums.reduce((a, b) => a + b); // 15
```