

TRAINING - DAY 6

26th June 2025

Topics Covered – Arrays (Shallow vs Deep Copy), Objects, Functions & Inbuilt Methods

Arrays

- **Shallow Copy**

- A copy that references the same memory as the original.

- Example:

```
let a = [1, 2, 3];  
let b = a;  
b.push(4);  
console.log(a); // [1, 2, 3, 4]
```

- **Deep Copy**

Creates a new independent copy of the array.

Example:

```
let a = [1, 2, 3];  
let b = [...a];  
b.push(4);  
console.log(a); // [1, 2, 3]
```

- **For-of Loop**

Used to loop through elements of an array.

```
let nums = [1, 2, 3];
for (let n of nums) {
  console.log(n);
}
```

Objects

- **Empty Object**

```
let obj = {};
```

- **Initialization**

```
let person = { name: "John", age: 22 };
```

- **Insertion**

```
person.city = "Delhi";
```

- **Deletion**

```
delete person.age;
```

- **Object of Object**

```
let student = {
  info: { name: "Raj", age: 20 },
  course: "BCA"
};
```

- **Array of Objects**

```
let students = [
  { name: "Aman", age: 21 },
  { name: "Simran", age: 22 }
]
```

];

Functions in JavaScript

- **Function Declaration and Parameters**

```
function greet(name) {  
  return "Hello " + name;  
}  
console.log(greet("Rahul")); // Output: Hello Rahul
```

- Functions help reuse logic and break code into parts.

Inbuilt JavaScript Functions

- `Math.random()` → Returns a number between 0 and 1
- `Math.floor()` → Rounds down
- `Math.ceil()` → Rounds up
- `Math.PI` → Value of π
- `Math.E` → Euler's number (~2.718)

Code Task

1. Generate a Random Number Between 1–10

```
let randomNum = Math.floor(Math.random() * 10) + 1;  
console.log("Random Number:", randomNum);
```

2. Generate a 4-Digit OTP Using Inbuilt Methods

```
let otp = Math.floor(1000 + Math.random() * 9000);  
console.log("Your OTP is:", otp);
```

Task for Tomorrow

- Learn about **JavaScript Events** (click, input, mouseover).
- Implement basic **DOM Manipulation** using getElementById, innerText, etc.
- Try making a small form that takes input and responds with a message using JavaScript.