📘 Day 9 JavaScript Notes: Objects (Literals, Constructor, Methods, Destructuring)

🔹 What is an Object in JavaScript?

- Objects store **key-value pairs**.
- You can declare objects in **two ways**:
    1. **Object Literals** (most common)
    2. **Constructor Method** using new Object()

🧱 Object Literals

```
const JsUser = {
 name: "Pranay",
 age: 21,
 location: "Jaipur",
 email: "pranay@google.com",
 isLoggedIn: true
};
```

🔑 Accessing Object Values

```
console.log(JsUser.email);       // Dot notation
console.log(JsUser["email"]);    // Bracket notation
```

🔒 Object.freeze()

- Prevents changes to the object.

```
Object.freeze(JsUser);
JsUser.email = "new@xyz.com"; // won't change
```

🗣 Adding Methods to Object

```
JsUser.greeting = function() {
 console.log("Hello JS user");
};


JsUser.greetingTwo = function() {
 console.log(` Hello JS user, ${this.name}` );
```

};

🔹 **Object Constructor**

```
const tinderUser = new Object(); // or simply {}
tinderUser.id = "123abc";
tinderUser.name = "Pranay";
tinderUser.isLoggedIn = false;
```

🕵️ **Nested Objects**

```
const regularUser = {
 email: "pranay@gmail.com",
 fullname: {
  userfullname: {
   firstname: "pranay",
   lastname: "jha"
  }
 }
};
console.log(regularUser.fullname.userfullname.firstname);
```

🔄 **Merging Objects**

```
const obj1 = {1: "a", 2: "b"};
const obj2 = {3: "c", 4: "d"};

// Way 1
const obj3 = Object.assign({}, obj1, obj2);

// Way 2 (Spread operator)
const obj3 = {...obj1, ...obj2};
```

📦 **Object Properties**

- Object.keys(obj) → returns array of keys

- Object.values(obj) → returns array of values
- Object.entries(obj) → returns array of [key, value] pairs
- obj.hasOwnProperty('key') → true/false if key exists

✂️ Object Destructuring

```
const course = {
 courseName: "JS in Hindi",
 price: "99",
 courseInstructor: "pranay"
};

const { courseInstructor: Teacher } = course;
console.log(Teacher); // Output: pranay
```

✅ Real Life Example

```
const student = {
 name: "Rohit",
 age: 22,
 address: {
  city: "Mumbai",
  state: "MH"
 }
};
console.log(student.address.city); // Mumbai
```
