JS - Data Types

Primitive Data Types

Primitive data types are simple data types that represent a single value and are immutable.

```
// Primitive Data Types in JavaScript:

/*
1. Number - Represents numeric values (integers and floating-point numbers).
2. String - Represents a sequence of characters.
3. Boolean - Represents either true or false.
4. Null - Represents the intentional absence of any value or object.
5. Undefined - Represents a variable that has been declared but not assigned a value.
6. Symbol (ES6) - Represents a unique and immutable value.
*/

// Examples of Primitive Data Types:

// 1. Number
let age = 30;  // An integer
let price = 10.99;  // A floating-point number

// 2. String
let name = "Alice";  // A string value
let greeting = 'Hello, world!';  // Another string

// 3. Boolean
let isActive = true;  // Boolean value representing true
let isOver18 = false;  // Boolean value representing false

// 4. Null
let emptyValue = null;  // Null value

// 5. Undefined
let notAssigned;  // Variable is declared but not assigned a value (undefined)

// 6. Symbol
let sym1 = Symbol('id');  // A unique and immutable value

/*
| Data Type   | Example Value             | Description                                              |
|-------------|-------------------------- |--------------------------------------------------------- |
| Number      | 100, 99.99                | Represents numbers (integers and decimals).              |
| String      | "Hello", 'world'          | Represents a sequence of characters.                     |
| Boolean     | true, false               | Represents true or false.                                |
| Null        | null                      | Represents no value or an empty object.                  |
| Undefined   | undefined                 | Represents a variable that is declared but not defined. |
| Symbol      | Symbol('id')              | Represents a unique and immutable value.                 |
*/
```

Non-Primitive Data Types

Non-primitive data types are more complex types that can hold multiple values and are mutable.

```
// Non-Primitive Data Types in JavaScript:

/*
1. Object - Represents a collection of key-value pairs.
2. Array - A special type of object used for storing ordered collections of values.
*/

// Examples of Non-Primitive Data Types:

// 1. Object
let person = {
    name: "John",   // Key: name, Value: "John"
    age: 25,        // Key: age, Value: 25
    country: "USA"  // Key: country, Value: "USA"
};

// 2. Array
let fruits = ["Apple", "Banana", "Cherry"]; // Array of strings

/*
| Data Type   | Example Value               | Description                                              |
|-------------|---------------------------- |----------------------------------------------------------|
| Object      | {name: "John", age: 25}     | Represents a collection of key-value pairs.              |
| Array       | ["Apple", "Banana"]         | Represents a list of ordered values.                     |
*/
```