Data Types in JavaScript

By Devharsh Jha

JavaScript (JS) is a versatile programming language commonly used for web development. One of its fundamental aspects is its data types, which determine how data is stored and manipulated within the language. JavaScript data types must be understood in order to program effectively and building robust applications.

I. **Primitive Data Types:** There are six primitive data types in JavaScript, which are basic building blocks for more complex data structures. They are:

1. **Number:** The "number" type represents both integer and floating-point numbers. It is used for performing arithmetic operations and calculations.

   Examples: 45, 6.673.

2. **String:** The "string" type is used to represent sequences of characters, such as text. Strings are enclosed in single (' ') or double (" ") quotes.

   Examples: 'Devharsh', "Jha".

3. **Boolean:** The "boolean" type has two possible values: "true" and "false." It is used for logical comparisons and branching in conditional statements.

   Examples: true, false.

4. **Undefined:** A variable that is declared but not assigned a value automatically holds the "undefined" type. It signifies the absence of a meaningful value.

   Example: let a;

5. **Null:** The "null" type represents the intentional absence of any value or object. It is often used to indicate the lack of a valid object reference.

   Example: let b = null;

II. **Reference Data Types:** JavaScript also has complex or reference data types, which are more flexible and can hold multiple values. They are:

1. **Object:** The "object" type is a versatile data structure that can store various key-value pairs.

   Example: const student = {name: 'Devharsh', age: 19};

2. **Arrays:** The "array" type is a special type of object used to store lists of values. Arrays are ordered collections and are often used to group related data.

   Example: const marks = [91, 94, 97];