# A Quick Dive into JavaScript

Introduction to JavaScript:

JavaScript, or JS, is a dynamic programming language widely used for web development. It enables developers to create interactive and dynamic user interfaces.

## REPL in JS:

Explore JavaScript code instantly using a Read-Eval-Print Loop (REPL). Open your browser console or use online editors like CodePen to experiment and see immediate results.

## Variables in JS:

Variables store data in JavaScript. Declare them using var, let, or const. Example: let myVar = 42;

# Data Types in JS:

JavaScript supports various data types like numbers, strings, booleans, objects, arrays, null, and undefined, each serving a unique purpose.

#### Numbers in JS:

Handle integers and floating-point numbers effortlessly. Perform operations like addition, subtraction, multiplication, and division directly in your code.

```
let num1 = 10;
let num2 = 5;
let result = num1 + num2;
```

## Operations in JS:

JavaScript offers a range of operations, including arithmetic, comparison, logical, and bitwise operations, crucial for writing effective code.

#### NaN in JS:

NaN represents an undefined or unrepresentable value in numeric computations. Be cautious when encountering it in your calculations.

```
let result = "Hello" / 2;
```

console.log(isNaN(result)); // true

## Operator Precedence:

Understand the order in which operations execute in an expression to avoid unexpected outcomes.

```
let result = 10 + 5 * 2; // 20
```

let, const, and var Keywords:

Use let and const for block-scoped variables, and var for function-scoped. Choose based on your variable requirements.

Assignment Operators and Unary Operators:

Assign values with operators like =, and perform unary operations like increment (++) or decrement (--).

```
let x = 5; x++; // 6
```

Boolean in JS:

Boolean values (true or false) are fundamental for control flow, conditionals, and logical operations.

```
let isTrue = true;
let isFalse = false;
```

## String in JS:

Manipulate sequences of characters with string operations like concatenation, slicing, and length determination.

```
let greeting = "Hello, ";
let name = "John";
let message = greeting + name;
```

# String Indices:

Access individual characters using indices starting from 0.

```
let word = "JavaScript";
```

# console.log(word[0]); // J

null and undefined in JS:

Differentiate between intentional absence (null) and declared but unassigned variables (undefined) for error-free coding.

let nullValue = null; let undefinedValue; console.log(nullValue); // null console.log(undefinedValue); // undefined

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