**Java Script data types**

1. number

This data type is used for representing numeric value in java script.

1. Int
2. Float

**Example:**

a=10

10

typeof a

'number'

c=1.5

1.5

typeof c

'number'

x=9999999999999999999999999999999999999999999999

1e+46

y=999999999999999999999999999999999999999999999999999999999999999999999999999

1e+75

An integer is a numeric value without decimal places or fractional part.

Example: whole numbers, even numbers, odd numbers,…

A float value is numeric value with decimal places or factional part.

Example: 1.5,2.5,56.67

In java script integer and float values are represented using “number” data type.

In java script variables are created using two keywords

1. let
2. var

**What is a variable?**

Variable is an identifier which is used for identifying value.

Variable is a named memory location.

Variable hold data or value.

Variable value can be changed.

**let keyword**

This keyword is used for creating or declaring variables.

This keyword is used for creating block level variables.

This scope of this variable within blocks but cannot accessible outside block.

**Syntax: let <variable-name>; 🡪 Declaration**

**Syntax: let <variable-name>=<value> 🡪 Initialization**

**Syntax: let <variable-name>,<variable-name>,<variable-name>**

**Syntax: let <variable-name>=value,<variable-name>=value**

**Example:**

let x,y;

The values of x and y is undefined.

“undefined” is a keyword, which represent variable does not hold any value.

**Example:**

let a; // Declaration

a=10 // Assignment

a=20 // Assignment

**Example:**

let x=100,y=200;

let p,q;

**var**

This keyword is used for creating variables.

This is used for creating global variables. These variables can be accessible within block and outside the block.

**Syntax:**

var <variable-name>;

**Example:**

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

    <script>

    if(10>2)

    {

        let a=100;

        var b=300;

    }

    alert(b);

    </script>

</head>

<body>

</body>

</html>

**What is difference between let and var keyword?**

**Scope:**

**var:** Declared variables have function scope, meaning they're accessible within the entire function.

**let:** Declared variables have block scope, meaning they're only accessible within the block where they're declared.

**Hoisting:**

**var**: Variables declared with var are hoisted to the top of their scope, meaning they can be used before they're declared. This can sometimes lead to unexpected behavior.

**let:** Variables declared with let are not hoisted. Using them before they're declared will result in a ReferenceError.

**Redeclaration:**

var: You can redeclare variables using var within the same scope.

let: You cannot redeclare variables using let within the same scope. This will result in a SyntaxError.

**const keyword**

**“const” keyword is used for** creating constants.

The value of constant is never changed.

**Syntax: const <contant-name>=<value>;**

Constant names are given in uppercase.

**Example:**

const PI=3.14;

console.log(PI);

PI=3.147; Syntax Error

**What is difference between variable and constant?**

The value of variable can be changed.

The value of constant is never changed.

**String data type**

In java script string is represented in three ways,

1. within double quotes “ “
2. within single quotes ‘ ‘
3. within backticks quotes ` `

Java script does not support single character data type (there is no char data type).

There is no difference between representing string in single and double quotes.

This string with backticks can embed expression or value.

**Example:**

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

    <script>

        let a=100;

        let b=200;

        let c=a+b;

        let s1=`sum of ${a} and ${b} is ${c}`;

        alert(s1);

        let s2='sum of ${a} and ${b} is ${c}';

        alert(s2);

    </script>

</head>

<body>

</body>

</html>

**boolean data type**

This data type is used for representing Boolean values.

In java script Boolean values are represented using two keywords.

1. true
2. false

**Example:**

**let rollno=1;**

**let name=”naresh”;**

**let fee=5000.0;**

**let fee\_paid=true;**

typeof rollno 🡪 number

typeof name 🡪 string

typeof fee 🡪 number

typeof fee\_paid 🡪 Boolean

**null value**

In java script null value is represented using object type.

“null” is keyword, which represent no value.

let name=null;

typeof name 🡪 object

**Interaction with alert(),prompt() and confirm()**

These functions are used for displaying message box and input box.