**S1\_\_JavaScript Introduction and DataTypes**

**Introduction:-** JavaScript is best known for web page development but it is also used in a variety of non-browser environments JavaScript is dynamic typed language, JavaScript also used for validation purpose. its compiled programming language, lightweight also known as Web based scripting language:- **Client Side Script:-** source code is visible to user, depends on browser and version of it, runs on users computer, HTML, CSS, Js etc it doesn’t provide data security. All scripts will be stored in local machine and it will stored in browser and then execute.. **Server Side Script**:- used to create dynamic pages, it runs on web server, whenever you are opening page it will not load the content on browser, It will return result as in form of HTML, only run on server. Source code will not be visible, doesn’t depend on client, and provide more security for data. Its event based programing.

**Application of JavaScript:-** Web Devlopment , Web Application, Server Application, Games, Smartwatches and Art.

**Javascript can be linked with Document in 2 ways**:- Internal, External.

**Why console Log is Used:-** console log is used to display the item on console in browser. It has

**Variable Declaration in Javascript:-**

**Variables:-** These are the predefined keywords. It’s nothing but a name which is used to store the value of something. When variable define it allocate some memory. Variable is declared before used. And the value can be changed during execution of program. Variable contains declaring and initialisation.

**Defining and Declaring Variable:-** Variable is unique, contain letter, digit, underscore ( \_ ), always start with letter, case sensitive.(num & Num).

* **Var:-** used to define variable. Var keyword used. We can initailse or declare the value at the same time. And the value can be change. Used in older version of js. Its having global scope.
* **Let:-** it was introduced in ES6. It cannot be redeclared. Must be define before use and it have block code. Its used in block scope {}. Used in new version of js.
* **Const : -** cannot change value once assign. At the same time of declaring we have to assign some values.

Use Strict:- used to prevent defining name

**Data Types: -** **Primitive Datatypes: -** that is not an object and has no method. Store data in Stack Memory. Its **Immutable**:- value cannot be change: allocate new memory space. Value can’t be changed after instance creation. Eg;-String. WHY:. Array or character and array is fixed in size. Data type.

Var name = “Sahiba”; create memory == 10002

name = “Kanchan”; create memory == 10003

EG:- String, Number, Boolean, Undefined, and Null: represent null value Data type shows as Object.

**Non Primitive Data Types**:- Store data in Heap Memory also called as **refrence datatype**. non primitives are **Mutable:-** mutable means value can be change.: cannot create memory used allocated memory. Data can be change after instance creation.

Var name = “Sahiba”; create memory == 10002

name = “Kanchan”; create memory == 10002

EG:- **Object:-** its contain key value pair, using key u can access the value, its complex type of data Type, it allow to store collection of data , Array, RegExp: used for regular expression.

**Type of:**- typeof is a keyword used to check the variable data type.

**Program**

Create file in vscode and give the name to file with .js extension…

console.log("Welcome To JavaScript");

// Variables Var Let and Const

var firstName = "Imran Shaikh";   // Redeclaration

var firstName = "Imran Shaikhs";

console.log(firstName);

firstName = 'Pune Maha';

console.log("Replacing Text: " + firstName);

console.log("Array Data is: " + [11, 22, 33, 44, 55, 66, 77]);

console.log("Access Value is: " + firstName[2]); // accessing values

console.log("Data Type Is:  " + typeof (firstName));

firstName = 100;

console.log("Replacing Text with Number: " + firstName);

console.table({ "Name": `Sahiba`, "Add": `Delhi`, 'Work': `Tutor` })

//Let

// let name = "Sahiba";

// let name = "Shaikh";  // provide block scope

//Const

// const first\_Name ="Imran";

// first\_Name="Shaikh";     //value cannot be changed

// console.log(first\_Name);

//QQ]] Slice() Trim() Replace, Reverse: Perform String Operation on Name = "   Maharashtra   ";

var prompt = require('prompt-sync')();

var enterString=prompt("Enter Any String:  ");

var response = enterString.slice(2,5);

console.log(response);

// Object

let objectData = { "Name": "Imran", "Age": 20, 100: "Dubai", 400:60 };

console.log("Object Data is : ")

console.log(objectData);

console.log(objectData["Imran"]);

console.log(objectData.Age);

// Array

let arrayData = [22, 33, 44, 55, "Kanchana", "Imran", "Sahiba", "Keshav",111.22]

let array = arrayData.shift();

console.log("Shift " + array);

console.log(arrayData)

//QQ]] Perform Operation on Array such as Pop Push Map Filter Find

console.log(arrayData.unshift("Lemon"));

console.log(arrayData);

console.log(arrayData.pop());

console.log("Data" + arrayData.push());

console.log('\n');