JAVA SCRIPT TUTORIAL

3 Essential parts to Website Development

1.HTML 5

1. Adds structure to our web pages
2. Tags used for eg., <div> , <section>

2.CSS 3

1. Adds styles to our webpage
2. Eg. Colors, fonts, all the stylish things.

3.JS (Java Script) 5

1. Adds programming to our web pages
2. Adds Funtionality to our web pages
3. Eg. Client side validation, effects & events etc.,

**Document Object Model (DOM):**

It is used to access all the elements of html page by considering all the elements as an Objects. It represents all the data as Objects in a hierarchical manner (through indentation).

By the help of DOM, Java Script understands the Data in the HTML web page.

Java Script can access all the elements by using functions for the particular element, thereby it can manipulate the data in a tag.

**Nodes:**

Java Script sees the DOM in terms of Nodes. As each tags are nodes.

There are three types of Nodes:

1. Element Node (Head tag, body tag)

2. Attribute Node (div,h1,h2 tags etc.,)

3. Text Node (the content inside the element)

**Two ways to add JAVA SCRIPT File**

1. Embed JS in html file, by script (type=”text/javascript”)tag in head section/body/outside in html.
2. Use External java script file under .js extension and introduce in the script tag as an attribute src=”file\_name.js”

**Statements & Comments**

All the instructions which are given to the browser to execute are known as Statements

All the instructions which are given to understand the codes are known as Comments

Comments can be given by // or /\* multiline comment \*/

**VS Live Server Plugin Setup**

We can see live updates of our web pages. To do so, we need to install a package plugin called Live Server by Ritwick Dey. This can be done though Visual Studio Code’s extension list icon in left side bar.

**Variables and Data types:**

Variables are used to store data value with a named storage.

It should be done with keyword **var** and followed by variable name.

The datatype of the variable will be automatically assumed based on the data we initialize.

Eg: var x=5;

There are three typed of data:

1. Numbers (0,1,1,2,34)
2. String (Vasanth, v)
3. Boolean (true or false)

**Operators:**

Operators are used to assign values to a variable, add some operands and which ever operation we need to do.

**Types of Operators:**

1. Arithmetic
2. Comparison
3. Logical
4. Assignment
5. Conditional
6. String
7. Type
8. Bitwise

**Control Statements:**

Control statement is used to control the flow of execution based upon our condition.

1. Conditional Control Statement

1. If-else statement

2. switch case statement

2. Looping / Iterative Control Statements

1. for loop

2. while loop

3. do While loop

4. for .. in loop ()

3. Continue Statement

4. Break Statement

**Functions:**

Functions are used when we want to implement the same operations but with different values. It gives code reusability.

We can invoke it to call and execute.

Functions can have parameters and return type.

The keyword **function** should used before the function name to declare and use it.

Example: function add( a, b) { var c=a+b; return c; }

**Scope of variables:**

If we declare a variable without **var**, by default the variable will be declared as **Global Variable.**

The function variables are not accessible outside functions.

**Arrays:**

Arrays are objects in java script. So, it comes with properties and methods.

Arrays are used to store the variable of the different data types and we can add after.

Declaration of Array: arr\_name = [1,3,5,7,9]; cars =[”audi” , “BMW” , “Mercedes”]

Var name = new Array(“audi” , “BMW” , “Mercedes” );

cars.push(“Tata Harrier”);

Array starts with the index 0;

There are several functions for array.