Day 21 Revisit HTML & CSS

HTML – HyperText Markup Language – It is the Language of the Web/Internet

All web pages are written using HTML only. Your browser can understand and render HTML code.

HTML is very user-friendly language, no syntax error, it’s not case & space sensitive. Tags are pre-defined. No Strict rules related to syntax and tags. No Error Handling Mechanism.

HTML 5 – It’s the latest version of HTML.

Newly added features in HTML5 – Audio, video tags, GeoLocation tags, Header, Footer, Navigation tags. New input types (email, url, date, datetime, mobile, file, colour etc.,)

HTML – Is created by Tim Berners Lee (WorldWideWeb & HTML)

Internet – Network of Networks

Network – Connecting two or more computers with the help of wires or wireless technologies (Bluetooth, WiFi or ZigBee) is called Networking.

The purpose of Networking is to share the data and resources (Printer, Scanner, Projectors etc.,)

Home Address, Office Address

A Resource connected to internet, will have a address, This address is called as IP address,

IP Address – Internet Protocol Address (123.67.118.53) [0-255.0-255.0-255.0-255]

Internet uses two systems – Internet help us to share the data.

While Sharing the data, two systems are involved (Sender – Receiver)

Sender – Can either send data/request

Receiver – Will either receive data/request

Client & Server (Client can send the data or request)

Server will receive the request, validate & process it then send the response back to each request.

Client – Server Model [It used Request & Response Object]

HTML – So many pre-defined tags

Formatting Tags (b, I, u, h1, h6, header, footer, nav, aside)

Data representing tags (p, ol, ul, li, table, tr, th, td, hr, br)

Form tags (input, label, form)

Audio tags, video tags,

Character/Text animation tag – Marquee

HTML document will have one root tag called html and two child tags called head & body.

<html>

<head> </head> (Title & other meta data of the web page)

<body> </body> (98% content that we are going to display in browser)

</html>

<html> - This is opening tag

</html> - This is closing tag

<html> </html> -- This is the root tag of html document.

<head> & <body> tags are child of html tag.

Head & Body – they are sibling tags (Bcos they belongs to same parent)

In HTML tags will also have attributes to customize the tags.

Attributes will be added in the opening tag only and it will be supplied in the form of key, value pair

<form action=”login.jsp” method=”post”>

</form>

In the above example both “action” & “method” are form tag attributes.

Element = Combination of html tag along with the data

Generally Element contains opening tag, content and closing tag

<p> This is a paragraph </p> -- This is a HTML element (opening & closing p tag, in between data is present)

Block tags and inline tags.

Block tags will occupy the overall view-port. (div tag)

Inline tags will not occupy over-all view-port. Will occupy the necessary area depending on the element size. (span tag)

CSS – Cascading Style Sheet (It will improve the look & feel of the web page)

CSS – Selectors (Class [.] , id [#], element [html tag])

Applying CSS to HTML doc

1. Inline CSS [we use style attribute] <h1 style="color:blue;text-align:center;">This is a heading</h1>  
   <p style="color:red;">This is a paragraph.</p>
2. Internal CSS [We use style tag] <style>  
   body {  
     background-color: linen;  
   }  
     
   h1 {  
     color: maroon;  
     margin-left: 40px;  
   }  
   </style>
3. External CSS (Recommended) – Applying to multiple HTML pages is possible [link the css file to the HTML file using link tag] -- <link rel="stylesheet" href="mystyle.css">

JAVASCRIPT – It’s A Scripting Language.

It’s no way connected to Java Programming Language.

JavaScript is a Programming Language of the Web.

JavaScript is used for DOM manipulation

DOM – Document Object Model

Each HTML document is processed as a tree internally.

Browser will automatically create this tree for each html page.

This tree will have single root called html with two branches namely head and body

DOM Manipulation – Adding or removing html elements at run time, Changing the CSS style of an element at run time, altering any of the attribute of html element.

Validation – Javascript will help to do the client side validation

Consider Login form (username & password)

Checking whether the data is entered for both username and password field and the input is matching the requirement – Client side validation.

Username should be a valid email and password needs to have at least 8 characters, One number, one special symbol.

Adding JavaScript to HTML file

1. Inline Script

<button type="button" onclick="document.getElementById('demo').innerHTML = Date()">Click me to display Date and Time.</button>

1. Internal Script

 <script>document.getElementById("demo").innerHTML = "My First JavaScript"; </script>

1. External Script (Recommended approach) <script src="myScript.js"></script>

Javascript is a high-level, interpreted, multi-paradigm programming language.

It’s client side scripting language. Browser javascript engine is responsible for running the js code along with the HTML.

JavaScript is also called as ECMA Script (ES). This is the official name of the Language.

ECMA – Electronics Computer Manufacturing Association

Comments in JS/ES

// -- Single Line Comment

/\* Multi line comment.

\*which spans for

\*multiple line \*/

Javascript also has keywords like java

break, case, catch, continue, do, else, finally, for, function, if, in, new, return, switch, this, throw, try, typeof, var, void, while

Javascript is a loosely typed language (No need to define the data type of variable upfront)

While creating variable no need to specify the data type of the variable.

JS is also called dynamically typed language. Depending on the value that get assigned to a variable, it’s data type changes

For example:

Var x= 25; (int number)

x=34.56; (float number)

x=false; (Boolean value)

x=”Welcome” (String value)

**Operators**

Javascript Operators performs some operation on single or multiple operands and produces a result. The categories of operators and the operators used in JavaScript are listed below:

* Arithmetic operators - +, -, \*, /, %, ++, --
* Comparison Operators - ==, ===, !=, >, <, >=, <=
* Logical Operators - &&, ||, !
* Assignment Operators - =, +=, -=, \*=, /=, %=
* Ternary Operator - <condition> ? <value1> : <value2>;

**Control Flow**

JavaScript uses the following control flow statements:

* if/else if/else
* for
* for-in (used to traverse the properties of an object)
* for-of (used to traverse the group of objects like array etc.,)
* while
* do-while

In JS, no static type checking. No overloading. No access modifiers.

Javascript uses prototype based objects not class based objects.

Template Variables / Template Literals

**Syntax**: var str = `string value`