**Phase 1**

**Day 1**

**02-08-2021**

**Web Technologies**

**https://**[**www.google.com**](http://www.google.com) **– URL : Uniform Resource Locator**

**http : protocol : hypertext transfer protocol.**

**Set of rules**

**https: secure**

**stateless protocol**

[**https://www.google.com**](https://www.google.com) **-🡪 URL**

**req(http/https)---🡪**

**Client Server**

**🡨--res(http/https)--- HTML/HTML5**

**HTML : Hyper text mark up language.**

**Static web page.**

**Dynamic web page.**

**HTML provide lot of pre-defined tags which help to create web page.**

1. **Html**
2. **Head**
3. **Body**
4. **Title**
5. **P**
6. **Heading tag h1 to h6**
7. **A anchor tag : hyper reference**
8. **Images**
9. **List tag**
10. **Table tag**
11. **Forms tag**

**In html 4**

**JSF : Java Server Faces .jsf**

**<!doctype HTML PUBLIC URL=”uRLAddress.dtd”/>**

**Document type definition**

**Root tag name ie html, two child head and body, inside head title, script, style and meta etc.**

**Inside body optional or more than one p, h1 to h6, div, span, table, form tags.**

**In html5 they remove this concept.**

**<!doctype html> : in html5 we are writing this tag giving the instruction to browser we are using html5 features(optional).**

**Before HTML5**

<input type="text/password/radio/checkbox/button/file/submit/reset"/>

**After HTML5**

<input type="number/email/date/url/color/"/> etc

**By default every html form method is consider as GET.**

**If method GET then Information send through URL using query param concept.**

**URL?key=value&key=value&key=value**

**In get method data not secure.**

**Method = post . if method is post data send through body part of request.**

**Div is know as division tag. It is also known as container tags. which can contains more than other tag like p, b, i, h1 to h6 as well as another div tag. Which help to represent the part of the web page.**

**HTML5 provided semantics tags.**

**CSS**

**Class and id selector**

**Span**

**Font and text properties diff**

**Box model 1**

**Flexbox 2**

**Grid model 3**

**Position**

**Float**

**background**

**Absolute and relative**

**@media**

**Frameset : deprecated iframe**

**Types of CSS**

1. **Inline**
2. **Internal css or embedded css**
3. **External**

**class : groups of tags. two tags can contains same class name.**

**id : to make tag unique we have to provide the id. Id must be unique.**

**<div>**

**<p class=”abc” id=”p1”>First Para</p>**

**<p class=”xyz abc” id=”p2”>Second Para</p>**

**<p class=”abc” id=”p3”>Third Para</p>**

**<p class=”xyz” id=”p1”>Fourth Para</p>**

**</div>**

**Box model**

**Border properties**

**Box Model : row or columns**

**Flex model : we can display the tag or dom elements may be row wise columns wise.**

**In CSS we have to write the style rules from a scratch.**

**Bootstrap : bootstrap is a external CSS open source framework. Which provide lot of pre-defined css classes with respective all tags like p, div, button, form, table etc.**

**First framework provide to make responsive web page or application.**

**Phase 1**

**Day 2**

**03-08-2021**

**Position : fixed, static, relative and absolute etc**

**By default position is static.**

**Bootstrap**

**We can add bootstrap features to our web pages**

1. **Using CDN URL**
2. **Download Bootstrap files.**
3. **Using Node JS.**

**Container and container-fluid**

**Container : container is pre-defined bootstrap class which is known as fixed width container.**

**Container –fluid 🡪 It is a pre-defined class which takes full width of the web page.**

**Bootstrap gridlayout**

**Grid layout is use to arrange the dom elements in row and columns format.**

**By default every two divided into 12 columns.**

**Screen size**

**Xs : extra small <576px**

**Sm : small >=576px**

**Md : medium >=768px**

**Lg : large >=992px**

**Xl : extra large >=1200px**

**JavaScript**

**=== vs ==**

**Control flow**

**looping**

**Alert and prompt**

**Anonymous function**

**Module and**

**Generic function**

**Array object**

**JavaScript Object**

**DOM**

**Set and map collection**

**Ajax**

**Promise**

**Asyn and await**

**JavaScript was object based interpreter scripting language Till ES5**

**ECMA : European Computer Manufacture Association**

**ECMA is a concept.**

**One of the implementation of ECMA (ES) is JavaScript.**

**Object based Vs Object oriented : no class keyword it contains only pre-defined object as well as we can create user-defined objects. Even we can call as protocol base.**

**Interpreter Vs Compiler : interpreter check the code line by line. Compile convert all code at time.**

**Using JavaScript we can do programming on web page.**

**HTML -🡪 content display**

**CSS/bootstrap 🡪 presentation on content or look and feel.**

**JavaScript 🡪 action on contents or programming on contents.**

**In JavaScript to declare the variable we use var keyword till ES5.**

**Control flow**

**If statement**

**if(condition) {**

**}**

**If else**

**if(condition){**

**}else {**

**}**

**If else if**

**if(condition){}**

**else if(condition){}**

**else {}**

**Switch statement**

**Looping :**

**While loop**

**Do while loop**

**For loop**

**For in**

**For of**

**forEach : it is a function.**

**Function and events**

**Function : function is use to write set of instruction to perform a specific task.**

**Pre-defined function**

**alert()**

**prompt()**

**parseInt()**

**parseFloat()**

**eval()**

**User-defined function**

**In JavaScript we can declare function in different ways.**

1. **Normal function declaration syntax**

**function functionName() {**

**}**

1. **Expression style function**

**var functionName = function() {**

**}**

1. **Arrow function : arrow function is a short cut of expression style function.**

1. **Callback : passing the function name or function body or function itself to another function is known as callback function.**

**Apply(), bind(), call() : ES5 style object creation.**

**Phase 1**

**Day 3**

**04-08-2021**

**In JavaScript we can create user defined object**

1. **Function style using ES5 style**
2. **Literal style using es5 style**
3. **Class style using ES6 style**

**array : array is use to store more than one value of same or different types.**

**syntax to create the array**

**literal style**

**var obj1 = [];**

**var obj3 = [10,20,30,40,50,60]**

**object creation style**

**var obj2 = new Array();**

**var obj4 = new Array(10,20,30,40,50,60);**

**Set : set is a type of data structure which help to store unique elements values.**

**Map : map is a type data structure which help to store the value in key value pairs.**

**Key is unique and value may be duplicate.**

**DOM : document object model**

**Index.html**

**<html>**

**<head>**

**<title>This is simple web page</title>**

**</head>**

**<body>**

**<p>Welcome to My Web Page</p>**

**</body>**

**</html>**

**Run application in browser internally DOM hierarchy create.**

**Html**

**Head body**

**Title p**

**textNode textNode**

**textData textData**

**If we want to read, write and update HTML contents dynamically. All programming language provide DOM API (Document object model application programming language).**

**Java, Python, C++, .net and JavaScript etc.**

**Ajax**

**Promise**

**Asyn and await**

**Synchronous and asynchronous operation**

**Synchronous statement execution : it execute line by line**

**document.write(“1st statement”);**

**document.write(“2nd statement”);**

**document.write(“3rd statement”);**

**Synchronous statement execution : it execute line by line**

**document.write(“1st statement”);**

**asyn document.write(“2nd statement”); it execute independently**

**document.write(“3rd statement”);**

**synchronous function call**

**fun1();**

**fun2();**

**fun3();**

**asynchronous function call**

**fun1();**

**asyn fun2();**

**fun3();**

**synchronous communication**

**1st req**

**2nd req**

**3rd req**

**Client Server**

**asynchronous communication**

**1st req**

**asy 2nd req**

**asy 3rd req both request work independently.**

**Client Server**

**setTime**

**setInteval**

**clearInterval**

**Ajax**

**Promise**

**Asyn and await**

**AJAX : Asynchronous JavaScript and XML**

**XMLHttpRequest : It is pre-defined object which help to do asynchronous communication.**

**Promise : Promise is a pre-defined object which help to handle asynchronous events of data. Data can be text, number, json or xml.**

**Promise can be resolve(successfully done) or reject(failure).**

**If we want to load the data from promise object**

**We have to use then() and catch()**

**Then will execute when promise resolve**

**Catch will execute when promise rejected.**

**Fetch() : it is pre-defined function which internally use ajax to call backend technologies services.**

**REST API call.**

**Backend technologies in Java, python, .net, node etc**

**When we call they return in text format or json format, xml format.**

**Fetch() function return type is promise. Using then we can load the data if promise resolve or if any error generate we can handle using catch.**

**Asyn and await**

**ES7 features : It is a replacement of then and catch.**

**User defined object creation**

**Oops**

**Object 🡪 any real world entity**

**Properties -- have – fields / variables**

**Person**

**Behaviour -- do/does – functions / methods**

**Place**

**Bank**

**Animal**

**Car**

**Object is concept.**

**//ES5 style object creation : function or literal style**

**//ES6 style object creation : class**

**var, let and const**

**using var keyword we can re-declare same variable once again. But using let keyword we can’t declare same variable once again.**

**Using var keyword we can create global scope or function scope. Let using let we can create block or local scope.**

**const a=10;**

**//a=20; we can’t change the value**

**Node JS**

**Overview of TypeScript**

**Angular Framework**

**Day 4**

**HTML,CSS,JavaScript and bootstrap**

**Library and framework**

**jQuery , backbone js, coffee js, angular js and angular framework, react js and vue JS etc.**

**Node JS : Node js is not a library or framework. It is run time environment for JavaScript library or framework.**

**Like a jre in java.**

**Before Node js JavaScript is known as client side scripting language. But after node js JavaScript we be use client side as well as serve scripting language.**

**Node js contains lot of pre-defined modules may be local module or external module which help to do server side programming language.**

**Using Node js we can do file handling programming, we can create server side program, we can create REST API, we can connect database like SQL or Non SQL database etc.**

**MEAN Stack : Mongo DB, Express Module, Angular Node JS**

**MERN Stack Mongo DB, Express Module, React Node JS**

**In node js we can’t use window and document objects.**

**BOM and DOM**

**Browser Object Model**

**Document object Model**

**Node js provide**

**npm (node package manager).**

**Npm is use to install external module.**

**Syntax to install external module**

**Npm install –g moduleName globally**

**Or**

**Npm install moduleName locally**

**Typescript : Typescript is a super set of JavaScript which support all ES6 features.**

**Angular JS : HTML,CSS,JavaScript using ES5 or ES6.**

**1.x 1.8 etc**

**MVC base architecture**

**Angular Framework 2 to 12 : technologies require**

**Html, css, Typescript.**

**Component base architecture**

**Browser can’t understand Typescript scripting language.**

**So we have to convert ts to js.**

**Traspiler ( it is type of compile which help to convert ts to js).**

**tsc (typescript compiler).**

**To convert ts to js we require tsc**

**npm install –g typescript**

**Typescript features**

**Typescript support data types.**

**number, Boolean, string, any**

**we can use array with data types.**