Phase 4

28-10-2021

Front end technologies

http://[www.google.com](http://www.google.com) URL

req(http/https)-------🡪

Client Server

🡨-------res(http/https)------

HTML/HTML5

CSS/CSS3

JavaScript

JEE

Asp.net

Php

Python

CGI

Node JS

Etc

Html : Hyper text mark up language which help to create the web application. That application may be static or dynamic.

Basic html

Hyper link

Image tags

List

Table tag

Form tag

It is use to display the content.

CSS : Cascading Style sheet : it is use to apply formatting style for web page.

It is use to display the content in different styles.

JavaScript : JavaScript was object based interpreter scripting language which help to create the dynamic web page as well as to do validation on client side.

Now a days we can do validation in JavaScript using two ways

1. Using HTML5 features
2. Using JavaScript

MEAN Stack Mongo DB / MySQL Express JS Like spring Rest Angular Node JS

MERN stack Mongo DB / MySQL Express JS Like spring Rest React Node JS

Web Application

VSCode

Html is not a structure

We can run the program in html without writing any tags.

Html 4 version

<!DOCTYPE html public url=”path.dtd”/>

Document type definition : inside this file they written the rules to html tags. means root tag, child tag, mandatory or optional tags.

In html 5 they removed path

<!doctype html> : instruction to browser we are writing html 5 code.

P

Heading tags : h1 to h6

attribute : we can descries the properties of tags using attributes.

Every tags contains one or more attributes.

Attribute we have to use in opening tags in the form of key value pairs

<tagName attributeName=”value” attributeName=’value’>

</tagName>

Link tag

List tags

Unorder list

Order list

Table Tags

Forms

HTML4

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

HTML5

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

Application.html

First name

Last name

Gender

Email

Hobbies

City Drop Down

Address

Search

Submit Reset

<input type=”text”/>

<input type=”password”/>

<input type=”email”/>

<input type=”radio” name = “gg” value=”male”/>Male

Checkbox

Dropdown

CSS :

Cascading style sheet

Without CSS : if we want to apply any formatting style we have to depends upon the other tags or there is not others tags to apply formatting style.

We have to write our contents and formatting style in one place.

Using CSS we can make separation of concern( We can write separate contents and formatting style).

CSS provide lot of pre-defined properties we can apply good look and feel for the application.

Types of CSS

1. Inline CSS
2. Internal CSS or embedded CSS
3. External CSS

Inline CSS :

<tagName style=”property:value;property:value;”></tagName>

Div : Division tag : it contains more than one other tags.

Like p, b, i or h1 to h6 or other tags.

Internal CSS or Embedded CSS

We have to use style tag in between head tag.

Syntax

Selector { property : value}

Types of selector

1. Universal selector : \* all tags
2. Specific selector : tagName : p, div, h1 to h6 etc.
3. Multi specific selector : tagName,tagName,tagName etc
4. Class selector :
5. Local class selector : tagName.className{property:value}
6. Global class selector : .className {property:value,property:value}
7. Id selector : #idName{property:value;property:value;}

Class selector Vs Id selector

<p class=”abc” id=”p1”>First Tag</p>

<p class=”xyz” id=”p2”>Second Tag</p>

<p class=”abc” id=”p2”>Third Tag</p>

<p class=”xyz” id=”p4”>Fourth Tag</p>

Class : group of tags is known as class.

Id selector is use to make the unique ness between two tags if tag may be same type or different type.

External CSS :

02-11-2021

JavaScript : JavaScript was object based interpreter scripting language.

JavaScript using ES5 features

ECMA : European Computer manufacture association

ES is a concept and JavaScript is one of implementation of ES.

Object based Vs object oriented.

Till ES5 JavaScript there is not concept called as class. it contains lot of pre-defined object as well as we can create user-defined objects.

We can write JavaScript code

1. Using internal JavaScript inside html page
2. Using external JavaScript connecting html page.

Syntax

<script type=”text/JavaScript”> opening tag

</script> closing tag

This tag we can write in between head or body tag of web page.

We can write more than one script tag in between head or body tags.

Type attribute is optional.

To display simple welcome message through JavaScript we have to use document pre-defined object and write pre-defined function.

In JavaScript it is not mandatory every statement end with semi colon.

Variable : In JavaScript to declare the variable till ES5 we can use var keyword.

Syntax

var variableName;

In JavaScript data types are divided into four parts.

1. Number type
2. String type
3. Boolean type
4. Object reference type.

Operator

Arithmetic Operator : +, -, , \*, /, %

Logical operator : &&, ||, !

Conditional operator : >, >=, <, <=, ==, != ===

Assignment operator : =

Increment and decrement : ++, --

typeof operator or functions

if statement

switch statement

looping

while loop

do while loop

for loop

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

1. Pre-defined function
2. User-defined functions.

Pre-defined functions

1. alert(“msg”) : This function is use to display the alert message.
2. prompt() : This function is use to take the value through keyboards.
3. parseInt() : string to integer
4. parseFloat(): string to float
5. eval() : string to number
6. confirm() : this function display pop up message with 2 button ok and cancel. If user click on ok button it return true if click cancel it return false.

do {

1: Add 2 : Sub using alert display option

Take the value using prompt

switch() {

case 1: addition

conversation function

case 2: subtraction

default wrong choice

break

}

Confirm do you want to continue.

}while()

User-defined functions

Normal syntax

function functionName(parameterList) {

set of statements.

}

1. function no passing parameter and no return type.

function info() {

alert(“Welcome to user-defined function”);

}

1. function passing parameter but not return type.

function add(a,b) {

}

1. function passing parameter and return the value.

function (id,name,salary,desg) {

// coding

return value;

}

In JavaScript function can return any type of values or it may not return.

1. Function no passing parameter but return value.

Events : Event is a interaction between user and components.

Or Event provide bridge between html tags to JavaScript code.

Types of events

1. onClick
2. onDblClick button
3. onMouseOver
4. onMouseOut images
5. onKeyUp
6. onKeyDown textfields or password field.
7. onFocus enter inside text field
8. onBlur exit from text field
9. onSubmit form validation
10. onChange drop down if do any changes.
11. onLoad when page load
12. onUnload when page refresh.

etc

BOM : Browser Object Model

DOM : Document Object Model



JavaScript follow object hierarchy concept.

Object --🡪 properties or fields/state/variables

Behaviour or functions

Object ---🡪 properties

Behaviour

Object -🡪 property

Behaviour

Object

In BOM hierarchy top most object is window object.

In DOM hierarchy top most object is document object.

JavaScript using ES6 features

Index.html page

<html>

<head>

<title>This is simple message</title>

</head>

<body>

<p>Welcome to simple web application</p>

</body>

</html>

When we run this page in browser internally it will create DOM hierarchy

Html

Head body

Title p

textNode 🡪message textNode 🡪msg

DOM API Document Object Model Application Programming interface. Lot of programming language like java, C#, C,C++, Python as well as JavaScript provided DOM API which help to read, write and update dom (HTML page contents) dynamically.