**MODULE 1: HTML**

1. **Are the HTML tags and elements the same thing?**

* NO HTML Tags and elements are not the same thing. HTML Tags written inside <> and HTML elements written inside HTML TAG.
* For example, HTML tag - **<b>,**
* HTML element- **<b> GOOD MORNING <b>**

1. **What are tags and attributes in HTML?**

* Attributes provide additional information about elements/tags.
* <a> tag is used for hyperlink and its attribute “herf” is using for specific URL.
* For an Example, **<a href= "http://www.google.com"> Google </a>**

1. **What are void elements in HTML?**

* Void Elements are special elements that only have start tag and doesn’t have ending tags.
* For an Example [**<br>**](https://www.geeksforgeeks.org/html-brgt-tag/)**,**[**<hr>**](https://www.geeksforgeeks.org/html-hr-tag/)**, <image>** etc.

**<h1> This is H1 Tag </h1>**

**<br>**

**<h2> This is H2 Tag </h2>**

**<hr>**

**<h3> This is H3 Tag </h3>**

1. **What are HTML Entities?**

* Some Characters are reserved in HTML.
* Character entities are used to display reserved characters in HTML. **Ex <,>, &, ‘,”**
* For an Example,

<h3> This is H3 Tag &lt; </h3>

<h3> This is H3 Tag &gt; </h3>

1. **What are different types of lists in HTML?**

* There are three types of list in HTML. (1) Unordered, (2) Ordered, (3) Nested, (4) Description list
* Unordered list: <ul>
* Ordered list: <ol>
* List item: <li>
* Description list:<dl>
* Define term in description list: <dt>
* Describe the term in description list: <dd>

1. **What is the ‘class’ attribute in HTML?**

* Class attribute is used to specify a class for an HTML element.

1. **What is the difference between the ‘id’ attribute and the ‘class’ attribute of HTML elements?**

* Class can be used by multiple HTML elements while ID name must only be used by one HTML element.

1. **What are the various formatting tags in HTML?**

* **Formatting elements were designed to display special types of text:**

**Example**

**<p> This is <b> BOLD </b> text </p>**

**<p> This is <strong> STRONG </strong> text </p>**

**<p> This is <i> ITALIC </i> text </p>**

**<p> This is <em> EMPHASIZED </em> text </p>**

**<p> This is <mark> MARK </mark> text </p>**

**<p> This is <code> CTRL+P </code> text </p>**

**<p> This is <small> SMALL </b> text </p>**

**<p> This is <sub> SUBSCRIPT </sub>**

**<p> This is <del> DELETED </del> text </p>**

<b> - Bold text

<strong> - Important text

<i> - Italic text

<em> - Emphasized text

<mark> - Marked text

<small> - Smaller text

<del> - Deleted text

<ins> - Inserted text

<sub> - Subscript text

<sup> - Superscript text

1. **How is Cell Padding different from Cell Spacing?**

* **Cell padding** defines the whitespace between the cell edge and the content of the cell.
* **Cell spacing defines** the space between cells, that is, it defines the whitespace between the edges of the adjacent cells.

1. **How can we club two or more rows or columns into a single row or column in an HTML table?**

* Using **COLSPAN and ROWSPAN** you can club two or more rows or columns into a single row or column in an HTML table.

**COLSPAN EXAMPLE:**

<tr>

**<th colspan="2">Name</th>** <th>Age</th>

</tr>

<tr>

<td>Jill</td>

<td>Smith</td>

<td>43</td>

**ROWSPAN EXAMPLE:**

<tr>

<th>Name</th>

<td>KUSH</td>

</tr>

<tr>

**<th rowspan="2">Phone</th>**

<td>123456</td>

</tr>

<tr>

<td>789011</td>

</tr>

1. **What is the difference between a block-level element and an inline element?**

* A block-level element always starts on a new line, and the browsers automatically add some space (a margin) before and after the element.
* An inline element does not start on a new line and it only takes up as much width as necessary.
* **<lable>, <script>, <span>, <input>, <br>** - Inline Element
* **<p>, <div>** - Block Level Element

1. **How to create a Hyperlink in HTML?**

* Using **<a>** tag you can create **hyperlink.**
* For an example **<a href= "http://www.google.com"> Google </a>**

1. **What is the use of an iframe tag?**

* Iframe tag is also called inline frame and it is used to embed another document within the current HTML document.
* For an example, **<iframe src="http://www.google.com" title="GOOGLE"> </iframe>**

1. **What is the use of a span tag? Explain with example?**

* It has both open(<) and closing (>) tags, and it is mandatory to close the tag.
* The span tag is used for the grouping of inline elements & this tag does not make any visual change by itself.
* For an example, **<p> Good <span style="color:red;font-weight:bold"> Morning</span> </p>**

1. **How to insert a picture into a background image of a web page?**

* The most common way to add background image is using the background image attribute inside the <body> tag.
* The background attribute which we specified in the <body> tag is not supported in HTML5.
* Using CSS properties, we can also add background image in a webpage.

1. **How are active links different from normal links?**

* Some browsers recognize an active link when the mouse cursor is placed over that link; others recognize active links when the link has the focus.
* Those that don't have a mouse cursor over that link is considered a normal link.
* Some browser recognizes active links when the mouse cursor is placed over that link.

1. **What are the different tags to separate sections of text?**

* Usually **<br>** tag is used to sepate the text sometimes **<p>** and **<section>** tags are used.

1. **What is SVG?**

* SVG is Scalable Vector Graphics. SVG defines vector-based graphics in XML format and it is used to define graphics for the web.

**<svg width="100" height="100">**

**<circle cx="100" cy="100" r="50" fill="green" />**

**</svg>**

1. **What is difference between HTML and XHTML?**

* HTML Stands for Hypertext Mark-up Language. HTML is the combination of Hypertext and Mark-up language.
* HTML5 is the fifth version of HTML. Many elements are removed or modified from HTML5.

|  |  |
| --- | --- |
| **HTML** | **HTML 5** |
| * It didn’t support audio and video without the use of flash player support. | * It supports audio and video controls with the use of <audio> and <video> tags |
| * Does not allow JavaScript to run in browser. | * Allows JavaScript to run in background. This is possible due to JS Web worker API in HTML5. |
| * It does not allow drag and drop effects | * It allows drag and drop effects. |
| * <HTML>,<Body> , and <Head> tags are mandatory while writing a HTML code. | * These tags can be omitted while writing HTML code. |
| * Elements like nav, header were not present. | * New element for web structure like nav, header, footer etc. |
| * Being an older version , it is not fast , flexible , and efficient as compared to HTML5. | * It is efficient, flexible and more fast in comparison to HTML. |

1. **What are logical and physical tags in HTML?**

* Logical Tags are used in HTML to display the text according to the logical styles. Following are the Logical tags commonly used in HTML.
* Physical Tags are used in HTML to provide actual physical formatting to the text. Following are the Physical tags commonly used in HTML.

**Physical Tags:**

1. **<b>**
2. **<big>**
3. **<small>**
4. **<sup>**
5. **<sub>**

**Logical Tags:**

1. **<address>**
2. **<code>**
3. **<del>**
4. **<ins>**
5. **<strong>**

**MODULE 2: CSS AND CSS3**

1. **What are the benefits of using CSS?**

* CSS handles the look and feel part of a web page.
* Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, etc.
* CSS saves time − You can write CSS once and then reuse the same sheet in multiple HTML pages.

1. **What are the disadvantages of CSS?**

* CSS, CSS 1 up to CSS3, result in creating of confusion among web browsers.
* With CSS, what works with one browser might not always work with another. The web developers need to test for compatibility, running the program across multiple browsers.
* After making the changes we need to confirm the compatibility if they appear. The similar change effects on all the browsers.

1. **What is the difference between CSS2 and CSS3?**

* Unlike CSS2, which was comprised of a single document, CSS3 has its specifications divided into many individual modules, which makes CSS3 a whole lot easier to handle.
* With CSS3, the designers can now use special fonts, like those available in Google Fonts and Typecast.

1. **Name a few CSS style components.**

* The components of css style are:
* Selector: HTML element name, id name, class name.
* Property: It’s like an attribute such as background color, font-size, position, text-align, color, border etc.
* Values: which defines property or values allocate for properties.

1. **What do you understand by CSS opacity?**

* It specifies the transparency of an element. You can take value from 0.0 to 1.0.

1. **How can the background color of an element be changed?**

* The background-color property sets the background color of an element.
* The background of an element is the total size of the element, including padding and border (but not the margin).

**body {**

**background-color: red;**

**}**

**</style>**

**</head>**

**<body>**

**<h1>The background-color Property</h1>**

**<p>The background color can be specified with a color name.</p>**

**</body>**

**</html>**

1. **How can image repetition of the backup be controlled?**

* To control the repetition of an image in the background, use the background-repeat property.
* You can use no-repeat value for the background-repeat property if you do not want to repeat an image, in this case, the image will display only once.

1. **What is the use of the background-position property?**

* The background-position property sets the starting position of a background image.

**body {**

**background-position: center;**

**}**

1. **Which property controls the image scroll in the background?**

* Background attachment property controls the image scroll in the background.

1. **Why should background and color be used as separate properties?**

* Because it enhances the legibility of style sheets.
* The background property is a complex property in CSS, and if it is combined with color, the complexity will further increase.

1. **How to center block elements using CSS1?**

* To horizontally center a block element (like <div>), use margin: auto; Setting the width of the element will prevent it from stretching out to the edges of its container.

1. **How to maintain the CSS specifications?**

* Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out
* The Specification also include:

1. The syntax and data types of the language.
2. Detailed explanation on CSS Selectors.
3. How you can assign values to properties.
4. The Cascade (the "C" in CSS)
5. The Box Model e.t.c
6. **What are the ways to integrate CSS as a web page?**

* CSS can be added to HTML documents in 3 ways:
* Inline - by using the style attribute inside HTML element
* Internal - by using a <style> element in the <head> section
* External - by using a <link> element to link to an external CSS file

1. **What is embedded style sheets?**

* Embedded Stylesheet: It allows you to define styles for a particular HTML document as a whole in one place. This is done by embedding the <style></style> tags containing the CSS properties in the head of your document.

1. **What are the external style sheets?**

* An external style sheet is a separate file linked to an HTML web page. It comes with a. css filename extension. All the styles that need to be used on a website can be declared in the external style sheet.

1. **What are the advantages and disadvantages of using external style sheets?**

**Advantages**

1) The style of a few documents can be controlled from the site by utilizing them.

2) Multiple HTML elements can have numerous documents, where classes can be made.

3) To assemble styles in complex circumstances, selector and grouping strategies are utilized.

Disadvantages

1) The additional download is expected to import documents having style information.

2) To render the documents, the outer template ought to be stacked.

3) Not practical for small style definitions.

1. **What is the meaning of the CSS selector?**

* CSS selectors are used to "find" (or select) the HTML elements you want to style.
* We can divide CSS selectors into five categories.
* Simple selectors (select elements based on name, id, class.
* Pseudo-class selectors (select elements based on a certain state)
* Pseudo-elements selectors (select and style a part of an element)
* Attribute selectors (select elements based on an attribute or attribute value)

1. **What are the media types allowed by CSS?**

* continuous or paged.
* visual, audio, speech, or tactile.
* grid (for character grid devices), or bitmap.
* interactive (for devices that allow user interaction), or static (for those that do not).
* all (includes all media types)

1. **What is the rule set?**

* A CSS rule set contains one or more selectors and one or more declarations.

**MODULE 3: HTML5**

1. **What are the new tags added in HTML5?**

* <Header>
* <Footer>
* <Nav>
* <Selection>
* <Article>
* <Aside>

1. **How to embed audio and video in a webpage?**

* To embed audio and video in HTML, we use the <audio> and <video> tag.

1. **Semantic element in HTML5?**

* The elements with a meaning called as Semantic element. Examples of semantic elements: <form>, <table>, and <article> - Clearly defines its content.

1. **Canvas and SVG tags**

* Canvas is used to draw graphics on webpage via JavaScript and SVG is Scalable vector graphics.

|  |  |
| --- | --- |
| **SVG** | **CANVAS** |
| * Vector based (composed of shapes) | * Raster based (composed of pixel) |
| * SVG has better scalability. So it can be printed with high quality at any resolution. | * Canvas has poor scalability. Hence it is not suitable for printing on higher resolution. |
| * SVG can be modified through script and CSS. | * Canvas can be modified through script only. |
| * Multiple Graphical Element | * Single Graphical Element. |

**MODULE 4: (JAVA Script Basic and DOM)**

1. **What is JavaScript?**

* JavaScript is the Programming Language for the Web. JavaScript can update and change both HTML and CSS. JavaScript can calculate and validate data.

1. **What is the use of is NaN function?**

* The is NaN() function is used to check whether a given value is an illegal number or not.
* It returns true if value is a NaN else returns false.
* It is different from the Number.

1. **What is negative Infinity?**

* The negative infinity in JavaScript is a constant value which is used to represent a value which is the lowest available.

1. **Which company developed JavaScript?**

* The first ever JavaScript was created by Brendan Eich at Netscape, and has since been updated to conform to ECMA-262 Edition 5 and later versions.

1. **What are undeclared and undefined variables?**

* Undefined variable means a variable has been declared but it does not have a value.
* Undeclared variable means that the variable does not exist in the program at all.

1. **Write the code for adding new elements dynamically?**

<html>

<head>

<title>t1</title>

<script type="text/javascript">

function addNode()

{var newP = document. createElement("p");

var textNode = document. createTextNode(" This is a new text node");

newP. appendChild(textNode);

1. **What is the difference between View State and Session State?**

* The basic difference between these two is that,
* The View State is to manage state at the client's end, making state management easy for end-user
* Session State manages state at the server's end, making it easy to manage content from this end too.

1. **What is === operator?**

* The strict equality operator ( === ) checks whether its two operands are equal, returning a Boolean result. Unlike the equality operator, the strict equality operator always considers operands of different types to be different.

1. **How can the style/class of an element be changed?**

* Element Class Names Another way to alter the style of an element is by changing its class attribute.
* Class is a reserved word in JavaScript, so in order to access the element's class, you use element. Class Name.

1. **How to read and write a file using JavaScript?**

* readFile() and rs. writeFile() methods are used to read and write of a file using JavaScript.

1. **What are all the looping structures in JavaScript?**

* JavaScript supports different kinds of loops:
* for - loops through a block of code a number of times.
* for/in - loops through the properties of an object.
* for/of - loops through the values of an iterable object.
* while - loops through a block of code while a specified condition is true.

1. **How can you convert the string of any base to an integer in JavaScript?**

* In JavaScript parseInt() function (or a method) is used to convert the passed in string parameter or value to an integer value itself.
* This function returns an integer of base which is specified in secondargument of parseInt() function.

1. **What is the function of the delete operator?**

* The delete operator removes a given property from an object.
* On successful deletion, it will return true, else false will be returned.
* However, it is important to consider the following scenarios: If the property which you are trying to delete does not exist, delete will not have any effect and will return true.

1. **What are all the types of Pop up boxes available in JavaScript?**

* JavaScript has three kind of popup boxes: Alert box, Confirm box, and Prompt box.

1. **What is the use of Void (0)?**

* JavaScript void 0 means returning undefined (void) as a primitive value.
* You might come across the term “JavaScript:void(0)” while going through HTML documents.
* It is used to prevent any side effects caused while inserting an expression in a web page.

1. **How can a page be forced to load another page in JavaScript?**

* Approach: We can use window. location property inside the script tag to forcefully load another page in JavaScript.
* It is a reference to a Location object that is it represents the current location of the document.
* We can change the URL of a window by accessing it.

1. **What are the disadvantages of using innerHTML in JavaScript?**

* Event handlers attached to any DOM element are preserved.
* Replacement is done everywhere.
* It is not possible to append innerHTML.
* Breaks the document.
* Used for Cross-site Scripting.

**MODULE: 5 (JQuery Basic, Effects & Advance)**

1. **What is jQuery?**

* JQuery is a lightweight JavaScript library.
* The purpose of jQuery is to make it much easier to use JavaScript on your website.

1. **How to Apply CSS Using JQuery, How to Add Class and Remove Class in JQuery, JQuery Animation?**

* The css() method sets or returns one or more style properties for the selected elements.
* The addClass() method adds one or more class names to the selected elements.
* The removeClass() method removes one or more class names from the selected elements.
* The jQuery animate() method is used to create custom animations.

1. **How to create slider with animation?**

* You have to follow below steps:

1. Come up with a strategy for the slider.
2. You can make as many modifications as you want to Slider Revolution templates.
3. Update the background image in each slide.
4. Update the text layers in each slide.
5. Edit the button text and design in each slide.
6. Edit the slider navigation.

**MODULE: 6 (Bootstrap Basic & Advance)**

1. **What are the advantages of Bootstrap?**

* Easy initiation
* Responsiveness.
* Highly customizable.
* Extremely user-centric.
* Top-notch support.
* Cross-browser compatibility.
* JavaScript plugins to your rescue.
* Far-reaching popularity.

1. **What is a Bootstrap Container, and how does it work?**

* Containers are the most basic layout element in Bootstrap and are required when using our default grid system. Containers are used to contain, pad, and (sometimes) centre the content within them. While containers can be nested, most layouts do not require a nested container.

1. **What are the default Bootstrap text settings?**

* Bootstrap 4 uses a default font-size of 16px, and its line-height is 1.5. The default font-family is "Helvetica Neue", Helvetica, Arial, sans-serif. In addition, all <p> elements have margin-top: 0 and margin-bottom: 1rem (16px by default).

1. **What do you know about the Bootstrap Grid System?**

* Bootstrap's grid system uses a series of containers, rows, and columns to layout and align content. It's built with flexbox and is fully responsive. Below is an example and an in-depth look at how the grid comes together.

1. **What is the difference between Bootstrap 4 and Bootstrap 5?**

|  |  |
| --- | --- |
| **Bootstrap 4** | **Bootstrap 5** |
| * It has 5 tier (xs, sm, md, lg, xl). | * It has 6 tier (xs, sm, md, lg, xl, xxl). |
| * It has limited colors. | * Extra colors added with the looks. |
| * It has jquery and all related plugins. | * Jquery is removed and switched to vanilla JS with some working plugins |
| * Bootstrap 4 supports both IE 10 and 11. | * Bootstrap 5 doesn’t support IE 10 and 11. |

1. **What is a Button Group, and what is the class for a basic Button Group?**

* Button Groups” in Bootstrap is a class of name “btn-group” which is used to create series of buttons in groups (without spaces) vertically or horizontally.
* This is the basic syntax of the button group class where each button has its own class of “btn.

1. **How can you use Bootstrap to make thumbnails?**

* **Step 1:** Include Bootstrap and jQuery CDN into the <head> tag before all other stylesheets to load our CSS.
* **Step 2:** Add <div> tag in the HTML body with class row. In that <div> create four div sections to create four images.
* **Step 3:** Add “col-sm-6” and “col-md-3” to four div sections which creates webpage responsive.

1. **In Bootstrap 4, what is flexbox?**

* The biggest difference between Bootstrap 3 and Bootstrap 4 is that Bootstrap 4 now uses flexbox, instead of floats, to handle the layout. The Flexible Box Layout Module, makes it easier to design flexible responsive layout structure without using float or positioning.

1. **How can one create an alert in Bootstrap?**

* On the dismiss button, add the data-dismiss="alert" attribute, which triggers the JavaScript functionality.

1. **What is a bootstrap card and how would you create one?**

* A card is a flexible and extensible content container. It includes options for headers and footers, a wide variety of content, contextual background colors, and powerful display options. If you're familiar with Bootstrap 3, cards replace our old panels, wells, and thumbnails**.**

**MODULE: 7 (Advance Java Script)**

1. **How can you create object in JavaScript? explain with example.**

* To create an object, use the new keyword with Object() constructor, like this
* const person = new Object(); Now, to add properties to this object, we have to do something like this: person.

<script>

const person = new Object();

person.firstName = "John";

person.lastName = "Doe";

person.age = 50;

person.eyeColor = "blue";

document.getElementById("demo").innerHTML =

person.firstName + " is " + person.age + " years old.";

</script>

1. **How can you create Array in JavaScript? explain with example**

* An array can hold many values under a single name, and you can access the values by referring to an index number.

<script>

const cars = new Array ("Saab", "Volvo", "BMW");

document.getElementById("demo").innerHTML = cars;

</script>

1. **What is Callback? Explain with example.**

* A callback function is a function passed into another function as an argument, which is then invoked inside the outer function to complete some kind of routine or action.

<script>

        function First(Something)

        {

            console.log(Something);

        }

        function Addtion(num1, num2)

        {

            sum = num1 + num2;

            return sum;

        }

        var Data = Addtion(12,11);

        First(Data)

    </script>

1. **What are the ways to define a variable in JavaScript?**

* 4 Ways to Declare a JavaScript Variable:
* Using var.
* Using let.
* Using const.
* Using nothing.

1. **What is the difference between null and undefined?**

* Null indicates the absence of a value for a variable. Undefined indicates the absence of the variable itself.

1. **What is NaN in JavaScript?**

* In JavaScript, NaN is short for "Not-a-Number". In JavaScript, NaN is a number that is not a legal number. The Number is NaN() method returns true if the value is NaN , and the type is a Number.

1. **How can you convert the string of any base to integer in JavaScript?**

* To convert a string to an integer **parseInt(), Number(), and Unary operator(+) function** is used in JavaScript. parseInt() function returns Nan( not a number) when the string doesn't contain number. If a string with a number is sent, then only that number will be returned as the output.

1. **When should I use Arrow function in JavaScript?**

* Arrow functions introduce concise body syntax, or implicit return. This allows the omission of the curly brackets and the return keyword.

1. **Explain the Prtotype with example**

* Prototypes are the mechanism by which JavaScript objects inherit features from one another.

<script>

        Person.prototype.FullName =function()

        {

            return this.name+ " "+this.age;

            console.log(this.name+ " "+this.age);

        }

        Person.prototype.FullName;

        console.log( prsn.prototype); //undefined

        console.log(Person.prototype); //object

        console.log(Person.\_\_proto\_\_); //object

        console.log(typeof Person.prototype); //object

        console.log(typeof prsn.\_\_proto\_\_); //object

    </script>

1. **What is the difference between .forEach loop and .map loop?**

* The forEach() method does not return a new array, whereas the map() method returns a new array.
* The map() method is used to transform the elements of an array, whereas the forEach() method is used to loop through the elements of an array.

1. **What is constructor in JavaScript? Explain with example**.

* A constructor is **a special function that creates and initializes an object instance of a class**. In JavaScript, a constructor gets called when an object is created using the new keyword.

<script>

        function Person(name,age){

            this.name = "Yash";

            this.age = 80;

        }

        const Data = new Person()

        console.log(Data);

        console.log(Data.age);

        console.log(Data.name);

    </script>

1. **What is the role of closure in JavaScript?**

* A closure gives you access to an outer function's scope from an inner function.

1. **What is meant by “this” in JavaScript?**

* this keyword refers to an object.
* Which object depends on how this is being invoked (used or called).
* This keyword refers to different objects depending on how it is used: In an object method, this refers to the object.

1. **How to validate a form in JavaScript?**

<script>

function validateForm() {

let x = document.forms["myForm"]["fname"].value;

if (x == "") {

alert("Name must be filled out");

return false;

}

}

</script>

1. **What are object prototypes?**

* Every object in JavaScript has a built-in property, which is called its prototype. The prototype is itself an object, so the prototype will have its own prototype, making what's called a prototype chain. The chain ends when we reach a prototype that has null for its own prototype.

1. **What is the rest parameter?**

* The rest parameter syntax allows a function to accept an indefinite number of arguments as an array, providing a way to represent variadic functions in JavaScript.

1. **What is the use of promises in JavaScript?**

* Promises solve a fundamental flaw with the callback pyramid of doom, by catching all errors, even thrown exceptions and programming errors.
* This is essential for functional composition of asynchronous operations.

1. **What are classes in JavaScript?**

* Classes are **a template for creating objects**.
* They encapsulate data with code to work on that data.
* Classes in JS are built on prototypes but also have some syntax and semantics that are unique to classes.

**Module:4 New Request**

1. **What is JSON**

* JavaScript Object Notation (JSON) is a standard text-based format for representing structured data based on JavaScript object syntax. It is commonly used for transmitting data in web applications.

1. **What is promises?**

* A Promise is a proxy for a value not necessarily known when the promise is created. It allows you to associate handlers with an asynchronous action's eventual success value or failure reason.