

1. Describe the and <A> tag with example.

The HTML tag is used to embed an image in a web page. Images are not technically inserted into a web page; images are linked to web pages. The tag creates a holding space for the referenced image. The tag does not have a closing tag.

The tag has two required attribute:

- src – Specifies the path to the image
- alt – Specifies the alternate text for the image

Syntax:

```

```

The <a> tag defines a hyperlink, which is used to link from one page to another. The most important attribute of the <a> element is the href attribute, which indicates the link's destination.

Syntax:

```
<a href="url">Anchor tag</a>
```

2. What are the different types of CSS used in webpage designing? Explain.

CSS is used to set the style in web pages that contain HTML elements. It sets the background-color, font-size, font-family, color, align-items etc.

There are three types of CSS which are given below:

- Inline CSS
- Internal CSS
- External CSS

- **Inline CSS:**

Inline CSS contains the CSS property in the body section attached with element is known as inline CSS. This kind of style is specified within an HTML tag using the style attribute.

Example:

```
<html>
<head>
  <title>Inline CSS</title>
</head>
<body>
  <p style="font-size:18px; color: #111">This the example of inline CSS </p>
</body>
</html>
```

- **Internal CSS:**

Internal CSS can be used when a single HTML document must be styled uniquely. The CSS rule set should be within the HTML file in the head section i.e the CSS is embedded within the HTML file.

```
<html>
<head>
  <title>Internal CSS</title>
  <style>
    h1{
      text-align: center;
    }
    .para-class{
      font-size: 18px;
    }
    #para-ID{
      background-color: yellow;
      color: black;
    }
  </style>
</head>
<body>
  <h1>Logo</h1>
  <p class="para-class">Internal CSS done with class attribute</p>
  <p id="para-ID">Internal CSS done with id attribute</p>
</body>
</html>
```

- **External CSS:**

External CSS contains separate CSS file which contains only style property with the help of tag attributes. CSS property written in a separate file with .css extension and should be linked to the HTML document using link tag. This means that for each elements style can be set only once and that will be applied across web pages.

HTML code file with index.html

```
<!--index.html-->
<!DOCTYPE html>
<html>
<head>
  <title>External CSS</title>
  <link rel="stylesheet" href="style.css">
</head>
<body>
  <h1>Logo</h1>
  <p class="para-class">External CSS with class attribute</p>
  <p id="para-ID">External CSS with id attribute</p>

</body>
</html>
```

CSS code file with style.css

```
/*style.css*/
h1{
  text-align: center;
}
.para-class{
  font-size: 18px;
}
#para-ID{
  background-color: yellow;
  color: black;
}
```

3. Why do you use JavaScript? Write a JavaScript program to calculate multiplication and division of two numbers provided by users.

JavaScript is a text-based programming language used both on the client-side and server side that allows you to make web pages interactive. Where HTML and CSS are languages that give structure and style to web pages, JavaScript gives web pages interactive elements that engage a user. JavaScript improves the user experience of the web page by converting it from a static page into an interactive one. To recap, JavaScript adds behavior to web pages.

JavaScript program to calculate multiplication and division of two numbers:

```
let firstValue = prompt("Enter a first number ");
let secondValue = prompt("Enter a second value ");
function multiplication(a,b){
    let mult = a*b;
    document.write(`The multiplication of two numbers ${a} and ${b} is ${mult} `);
}
function division(a,b){
    let div = a/b;
    document.write(` The division of two numbers ${a} and ${b} is ${div} `);
}
multiplication(firstValue,secondValue);
division(firstValue,secondValue);
```

4. Explain about Web server? What are the major issues in “httpd.conf” file to troubleshooting web server in Apache?

A web server is a computer that runs website which accepts requests via HTTP or its secure variant HTTPS. The basic objective of the web server is to store, process and deliver web pages to the user. This interconnection is done using Hypertext Transfer Protocol (HTTP).

Apache HTTP server is an effort to develop and maintain an open-source HTTP server for modern operating system including UNIX and Windows. The goal of this project is to provide a secure, efficient and extensible server that provides HTTP services in sync with the current HTTP standards.

The major issues in Apache web server while troubleshooting are as follows:

- Apache Won't Start
- SSL Problems
- Blocked Ports/Conflicting Software
- Apache isn't Co-operating with SSL
- Htaccess isn't Working
- Apache isn't Compiling

5. What are the different types of loops used in PHP? Explain the “FOR” loop with example.

Loop is a sequence of instruction that is continually repeated until a certain condition is reached. Loops are used to execute the same block of code again and again, as long as a certain condition is true.

In PHP, we have the following loop types:

for : loops through a block of code a specified number of times.

Syntax

```
for(initialization;condition;increment/decrement){  
    //code to be executed  
}
```

Example:

```
<?php  
for($i=1;$i<=5;$i++){  
    echo "The number is: $i";  
}  
?>
```

while : loops through a block of code as long as the specified condition is true.

Syntax

```
while (condition is true) {  
  //code to be executed  
}
```

Example:

```
<?php  
$x = 1;  
While($x<=5){  
echo "The number is $x";  
}  
?>
```

do ... while : loops through a block of code once, and then repeats the loop as long as the specified condition is true.

Syntax

```
do{  
  //code to executed  
}while(condition is true);
```

Example:

```
<?php  
$x=1;  
do{  
echo"The number is: $x";  
$x++;  
}while($x<=5);  
?>
```

6. Describe the database connection process in PHP?

Before we start building PHP connection to MYSQL database we need to know what PHPMysqlAdmin is. It's control panel from where you can manage the database that you've created. There are many other ways of connecting database using PHP but we will be doing this by localhost here.

Database connection process in PHP are as follows:

1. Create a connection

To create database in localhost we have to go homepage of PHPMysqlAdmin where you find the new button to create a database and name it as a practiceDatabase.

2. Create a folder in htdocs/www

Now, locate the folder where you installed XAMPP and open the htdocs folder. Create new folder inside c:/xampp/htdocs/ and name is "practice" we will place web files in this folder.

Note: if you are using WAMP, then add your practice folder in c:/wamp/www/ folder.

3. Create new PHP file to check your database connection

Create a new PHP file and save it as index.php inside the practice folder.

4. Add connection code in file

After creating PHP file and saved it add connection code in PHP file.

```
<?php
$username = "root";
$servername = "localhost";
$password = "";
$databasename = "practiceDatabase";
$conn = mysqli_connect($servername,$username,$password,$databasename);
if($conn->connect_error){
    echo $conn->connect_error;
}
echo "Congratulations! You've successfully connected your database";
$conn->close();
?
```

5. Run it

Now open your browser and goto localhost/practice/index.php

1. Write the basic structure of an HTML program and explain with an example.

The basic structure of an HTML program is given below:

```
<!DOCTYPE html>
<html>
<head>
  <title> </title>
</head>
<body>
</body>
</html>
```

<!DOCTYPE html>: This tag is used to tell the HTML version. This currently tells that the version is HTML 5.

<html>: This is called HTML root element and used to wrap all the code. It is used by the browser to manipulate text, images, and other content to display it in the required format.

<head>: Head tag contains metadata, title, CSS etc. Some of the HTML elements that can be used inside the <head> elements are:

<style>

<title>

<script>

<meta> etc.

<body>: Body tag is used to enclose all the data which a web page has from texts to links. All the content that you see rendered in browser is contained within this element. Some tag used inside the body tag are:

<div>

<table>

<h1> <h2> <h6>

<p>

<form>

<button> etc.

2. Explain different types of list in HTML with example.

HTML Lists are used to specify lists of information. All lists may contain one or more elements. There are three different type of HTML lists:

- Unordered List(`ul`)
- Ordered List(`ol`)
- Description List or Definition List(`dl`)

Unordered List

An unordered list starts with the `` tag. Each list item starts with the `` tag.

The list items will be marked with bullets by default.

Example:

```
<ul>
  <li>Analog Computer</li>
  <li>Digital Computer</li>
  <li>Hybrid Computer</li>
</ul>
```

Ordered List

An ordered list starts with the `` tag. Each list item starts with the `` tag.

The list items will be counted with 1, 2... by default,

```
<ol>
  <li>Analog Computer</li>
  <li>Digital Computer </li>
  <li>Hybrid Computer</li>
</ol>
```

Definition List (dl)

Definition List also known as description list where entries are listed like dictionary. The definition list is very appropriate when you want to present glossary, list of terms of other name-value list.

3. How can you use image as hyperlink? Give example.

To use image as a link in HTML, use the tag as well as <a> tag with the href attribute. The tag is for using an image in a web page and the <a> tag is for adding a link. Under the image tag src attribute, add the URL of the image. With that also add height and width of image.

Example:

```
<html>
<head>
  <title>Document</title>
</head>
<body>
  <a href="https://www.facebook.com/">
    
  </a>
</body>
</html>
```

4. List the feature of JavaScript. Write a program in JavaScript to calculate the factorial of a given number.

JavaScript language consists of several different features. Some of the general JavaScript features are as follows.

1. Validating user's input
2. Client-side technology
3. Case sensitive format
4. Handling dates and time
5. Handling events
6. Detecting the user's browser and OS
7. Object-oriented language
8. Light weight and delicate

JavaScript program to calculate the factorial of given number

```
let num = prompt("Enter a number ");
if(num<0){
    document.write("Invalid!!! number must be a positive value ");
}
function getFactorial(a){
    var factorial=1;
    for(var i=1;i<=a;i++){
        factorial=factorial*i;
    }
    document.write("The factorial of "+a+" is "+factorial);
}
getFactorial(num);
```

5. What are the different types of CSS? Describe the inline CSS with suitable example.

CSS is used to set the style in web pages that contain HTML elements. It sets the background-color, font-size, font-family, color, align-items etc.

There are three types of CSS which are given below:

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

1. Inline CSS:

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```

6. What are the different types of control structure in JavaScript?

The control structures within JavaScript allow the program flow to change within a unit of code or function. These statements can determine whether or not given statements are executed and provide the basis for repeated execution of a block of code.

Types of control structure in JavaScript are as follows:

Conditional Statement:

This is where the flow of the execution in a program is decided. Based on an expression passed, a conditional statement makes a decision, which results in either TRUE or FALSE. Example if else, if else if, switch etc.

Iterative Statement (Loop):

Looping is a powerful tool in order to execute a set of instructions, repeatedly, while the expression passed is satisfied. Example for loop, while loop and do while loop.