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Web Technologies

Theory Assignment - 1

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- PART-1: Short Type Questions

Q1:) Differentiate between the following:

Ans:) I)

Static Website	Dynamic Website
1.) Static Website Deliver the same content to all users. i.e. the HTML files are fixed and has no server-side processing	Dynamic Website can deliver different content to different users based on interactions, user inputs. Content is generated by server-side scr...
2.) To change content, you need to manually update the HTML files.	Updates can be made dynamically through database changes allowing more flexibility.
3.) Faster to load because they are pre-rendered & don't require server-side processing.	Comparatively Slower than static sites due to real-time processing & database queries.

Ans:) II)

Web Servers	Web Browsers
1.) Its primary function is to host & serve web contents to clients over the internet.	It is a client-side application that requests, retrieves and displays web contents.

2) These handle requests from clients (browsers) and send responses.	Browser initiates request to web servers, process the response and provides it to user.
3.) They can execute server side scripts and interacts with database	They merely get a promise element from web server.
4) Examples: AWS, Apache, Nginx, Microsoft IIS.	Examples: Brave, Chrome, Firefox, Edge

Ans:) III

GET Method	POST Method
1) Used to get data from a specified resource. It appends data to the URL as query parameters	Used to submit data to be processed by a server, which may lead to a changes in server state or data.
2.) Data get sent via GET is visible in the URL, which can be bookmarked or cached by the browser.	Data sent via POST is included in the request body and is not visible in the URL.
3.) Ideal for retrieving data where the action does not modify server data.	Suitable for actions the modify data on the server. like submitting a form.

Ans IV)

Container Tag	Empty Tag
1) Container Tags have both opening and closing tags and can enclose other HTML elements	Also known as self-closing tags, do not have closing counterparts and are used to insert single elements.
2.) They are used to group and structure content, allowing nested elements.	They define elements that do not have any content or children, often used for embedding data.
3.) Eg: , <h2>, <p>	Eg: <img>, , <hr>

Ans V)

Ordered List	Unordered List
1) Displays items in a numbered sequence, indicating, a specific order or hierarchy	Displays items with bullet points or orther markers, without implying any order.
2) The HTML tag for an ordered list is , and list items are enclosed in tag	The HTML tag for an unordered list is , and list items are enclosed in tag.
3) Suitable for lists where the order of items matters.	Suitable for lists where the sequence of items is not important.

- PART-2 : Long Type Questions

Q2:) Explain <form> tag with atleast 2 attributes. Also Design an HTML form to collect details of an employee that include the following form controls:

- Elements:

1) Employee's name
2) qualification
3) Age, Gender
4) Designation
5) Mobile No.
6) Address
7) Hobbies
8) file to upload (passport-size)
9) Submit & reset button
10) CSS:
   i) bg - purple
   ii) font text size 30 px.

Ans-2:) The <form> tag in HTML is used to create an HTML form that collects user input. Forms are essential for gathering data from users, which can then be sent to a server for processing.

→ Two common attributes used with <form> tag:

1) action attribute: This specifies the URL where the form's filled data will be sent when the form is submitted
<syntax> "<form action="/action.php">

2) method attribute: This Determined how the data will be sent.
GET: Appends data to the URL
POST: Includes data in the request body.

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=> Source Code:

```
<!DOCTYPE html>
<html>
<head>
  <title> Employee's Data Forum </title>
  <style>
    form{
      background-color: purple;
      font-size: 30px;
    }
</head>
<body>
  <form action = "none" >
    <label for = "eName" > Employee Name: </label>
    <input type = "name" id = "eName" placeholder = "name" >

    <label for = "quali" > Qualification: </label>
    <input type = "text" id = "quali" placeholder = "Qualifications" >

    <label for = "age" > Age: </label>
    <input type = "number" id = "age" name = "age" >

    <label for = "desg" > Designation: </label>
    <input type = "text" id = "desg" name = "desg" >

    <label for = "male" > Male </label>
    <input type = "radio" id = "male" name = "male" >
    <label for = "female" > Female </label>
    <input type = "radio" id = "female" name = "female" >
```

```
<label for="mNo."> Mobile No: </label>
<input type="tel" id="mNo." name="mNo.">

<label for="address"> Address: </label>
<input
<textarea id="address" rows=4 name="address">

<label for="hobbies"> Hobbies: </label>
<input type="text" id="hobbies name="hobbies">

<label for="photo"> Upload Photo: </label>
<input type="file" id="photo" accept="image">

    <button type="reset"> Reset </button>
    <button type="submit"> Submit </button>
</form>
</body>
</html>
```

Q-3:) Define CSS and its different types with suitable programs.

Ans 3:) Cascading Style Sheet (CSS) is a style-sheet language used to describe the presentation and layout of a document written HTML.

- CSS controls the visual appreance of web pages, including colors, fonts, spacing and positioning of elements.

→ Types of CSS:

1) Inline CSS:

- This is used to apply styles directly to individual elements and tags using the ~~<style>~~ "style" attribute.

- This method is typically used for quick styling or when you need to over-ride other styles.

Example: <html>
<head> <title> Inline CSS </title> </head>
<body>

This paragraph's font color is blue!

</body>
</html>

2) Internal CSS:

- This is written within the <style> tag in the <head> section of an HTML document.

- It is used to style elements which are on a single webpage.

- Ideal for styling a page when you need to apply styles to specific page without affecting other peges.

Example
```
<html>
<head> <title> Internal CSS </title> </head>
<body> <style>
        p { color: blue; }
    </style>
</head>
<body> <p> This poregroph is also blue font </p>
</body>
</html>
```

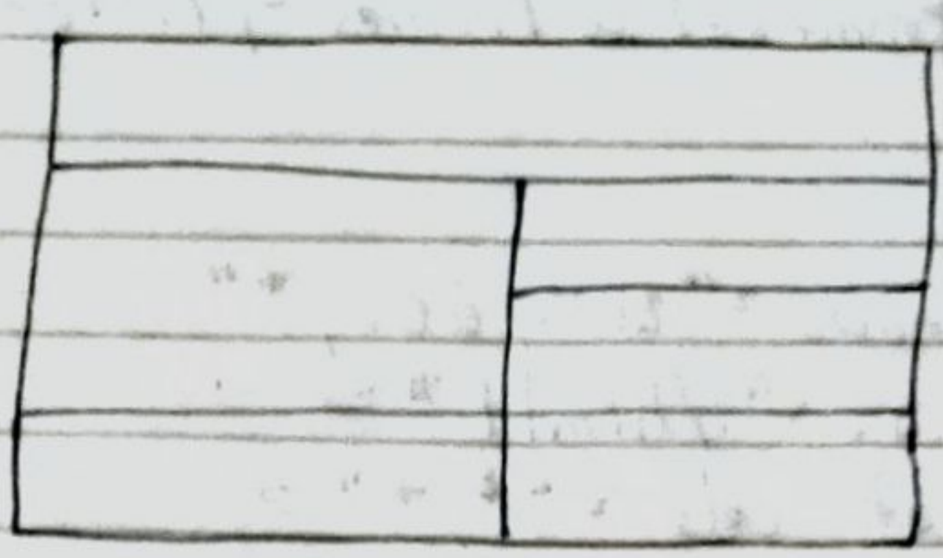
3) External CSS:
- This is defined in a seperate .css file and is linked to an html codument using <link> tag in <head> section.
- Ideal for large websites where some styles are reused accross multiple pages.

Example
```
<!-- index.html -->
<html>
<head> <title> External CSS </title>
    <link rel="stylesheet" href="style.css" >
</head>
<body> <p> This is also bloe toxted poregroph </p>
</body>
</html>

// style.css
p { color: blue; }
```

Q4:) What are frames? What are the advantages and disadvantages of using frame.
Also write HTML code to design the following frame and link each frame with different webpage.

Output:



Ans-4:) Frames in HTML allow a webpage to be devided into multi-ple sections. Here are the advantages and disadvantages.

→ Advantages:
- Different Sections can be navigated independently
- Keeps elements like headers or footers static while scrolling othe content

- Reduces loading time as content in frames can be cached seperately

→ Disadvantages:
- Poor indexing of content by search engines.
- Difficulties with book marking, navigation & printing.
- Challenges for screen readers.
- Increases difficulty in managing and synchronysing.

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→ Source Code:

```
<html>
<head>
    <title> Frameset & Frames </title>
</head>
<body>
<frameset rows = "20%, 60%, *"
        <frame src = "./html1 " >
    <frameset cols = "* *" >
        <frame src = "./html2 " >
        <frameset rows = "*, *" >
            <frame src = "./html3 " >
            <frame src = "./html4 " >
        </frameset>
    </frameset>
    <frame src = "./html5" >
</frameset>
</html>
```