

① What is the Structure of HTML File? Explain with example.

→ HTML (Hypertext markup language) is the standard markup language used for creating webpages.

Structure of HTML Document:

Every html document consists of basic four structure elements html, head, title and body. Each of them are described below:

① HTML ELEMENT:

Start tag: <html> first tag in the document which declares you are writing on HTML element.

End tag: </html> last tag in the document.

② Head Element

- Start tag: <head> second tag which follows the html tag & starts the head section which describes the document.

- End tag: </head> It follows the <title> tag & end the head section.



③ Title Element

- Start tag: <title> Third tag which follows the <head> tag & contains the title you want for document. This information will be displayed in the title bar at the top of the browser window.

End tag: </title> - fourth tag.

④ Body Element

Start tag: <body> Sixth tag which follows <head> tag to denote starting content of the body.

End tag: </body> Next to the last tag in the document which follows the end of the document content & precedes the </html> tag.



Structure

```
<!DOCTYPE html>
<html>
<head>
<title> webpage </title>
</head>
<body>
<h1> first heading </h1>
<p> paragraph </p>
</body>
</html>
```

② What is HTML Link? Explain different links used in HTML.

→ A link is an HTML object that allows you to jump to a new location when you click or tap it. Links can be attached to text, images or other HTML elements.

HTML Link Syntax:

The HTML `<a>` tag defines a hyperlink.

Syntax: ` link text `

Here,

- 'href' is the important attribute of `<a>` tag, which indicates links destination.

Example: ` visit `

- The 'target' Attribute:

By default the linked page will be displayed in the current window. To change this, you must specify another target for the link.

Values for this attribute:

① -self - Default.

② -blank - Opens the document in a new window/tab.

③ -parent - Opens document in parent frame.

④ -top - Opens the document in full body of the window.

Example:

```
<a href="https://w3schools.com" target="-blank">
```

Visit w3schools

- ① Image as a link.

- To use an image as a link, just put the `` tag inside the `<a>` tag:

Example:

```
<a href="default.asp">
```

```

```

```
</a>
```



② Email Address as a link

Use `mailto:` inside the `href` attribute to create a link that opens the user's email program (to let them a new email):

Example:

```
<a href="mailto:someone@example.com"> send email </a>
```

③ Button as a link

To use an HTML button as a link, you have to add some Javascript code.

JS allows you to specify what happens at certain events, such as click of a button:

Example:

```
<button onclick="document.location = 'default.asp'> HTML  
Tutorial</button>
```

④ Absolute vs Relative URLs

- If a full web address is used in `href` attribute is a absolute url. for example:

```
<p><a href="https://www.w3.org/"> W3C </a> </p>
```

- If a local link is specified with relative URL (without the "https://www" part);

Example:

```
<p><a href="html.asp"> HTML Images </a> </p>
```



③ "It is discouraged to use frame in web development". Explain the reason.

- HTML frames are used to divide your browser window into multiple sections where each section can load multiple HTML Document. A collection of frames in the browser window is known as a frame-set.

Frames are discouraged to used in Web development for following disadvantages:

- ① Some smaller devices cannot cope with frames often because their screen is not big enough to be divided up.
- ② Sometimes your page will be displayed differently on different computer due to different screen resolutions.
- ③ The browser's back button might not work as the user's hope.
- ④ There are still few browsers that do not support frame technology.
- ⑤ Large number of frames on a webpage might increase the server load as well.



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④ What is the strength of CSS? What are the various approaches to include CSS document in HTML?

→ Cascading Style Sheet (CSS) is used to format the layout of a webpage. With CSS, you can control the color, font, size of the text, the spacing between elements, how elements are positioned & laid out, what background images or background colors are to be used, different displays for different devices & screen sizes, and much more.

Using CSS

CSS can be added to HTML documents in 3 approaches

- ① **Inline** - by using the `style` attribute inside HTML elements.
- ② **Internal** - By using a `<style>` element in the `<head>` section.
- ③ **External** - By using a `<link>` element to link to an external CSS file.

① **Inline CSS:**

An inline CSS is used to apply a unique style to a single HTML element.

An inline CSS uses the '`style`' attribute of an HTML document.



The following example sets text color of the `<h1>` element to blue & the text color of the `<p>` element to red;

```
<h1 style="color: blue;"> A Blue Heading </h1>
<p style="color: red;"> A red paragraph </p>
```

②

Internal CSS

An internal CSS used to define a style for a single HTML page.

It is defined in the `<head>` section of an HTML page, within a `<style>` element.

Example: `<h1>` to blue, text color of all the `<p>` elements to red. page will be displayed with a "powder blue" bg color.

```
<!DOCTYPE html>
<html>
<head> <style> body { background-color: powderblue; }
        h1 { color: blue; } p { color: red; }
</style> </head>
<body> <h1> This is heading </h1>
        <p> This is paragraph </p>
</body>
</html>
```



③ External CSS

An external style sheet is used to define the style for many HTML pages.

To use an external style sheet, add a link to it in the `<head>` section of each HTML page:

Example:

```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="styles.css">
  </head>
  <body> <h1> This is heading </h1>
        <p> This is paragraph </p>
  </body>
</html>
```

An external style sheet can be written in any text editor. It must be saved with .css extension.

Here is what "style.css" looks like:

```
"style.css"
body {
  background-color: powderblue;
}
h1 {
  color: blue;
}
p {
```



(S) What is HTML5? Explain characteristics of HTML5?

- HTML5 is the new standard for HTML. The previous version of HTML, HTML 4.01, came in 1999. The web has changed a lot since then. HTML5 is a cooperation between W3C Consortium (W3WC) & the Web Hypertext Application Technology Working group (WHAT WG).

The latest versions of Apple safari, Google chrome, Mozilla firefox, Opera, Microsoft edge, explorer 9.0 all supports HTML5.

Features of HTML5:

- ① New semantic Elements - These are like `<header>`, `<footer>` & `<sections>`
- ② Forms 2.0 - Improvement to HTML web forms .
- ③ Web socket - A next-generation bidirectional communication technology for Web application.
- ④ Canvas - This supports a two-dimensional drawing surface that you can program with Javascript.
- ⑤ Audio-Video - You can embed audio or video on your webpage without resorting to third party plugins.



- ⑥ Geolocation - New visitors can choose to share their physical location with your web application.
- ⑦ persistent local storage - To achieve without resorting to third party plugins.
- ⑧ Drag & Drop - Drag and drop the items from one location to another location on the same webpage



⑥ Compare the contrast between a block element & an inline element in HTML.

→ Every HTML element has a default display value, depending on what type of element it is. There are two display values: block & inline.

Block level elements

- It always starts on a new line.
- It always takes up the full width available.
- It has a top & a bottom margin, whereas an inline element does not.

Example:

```
<div> Hello World </div>
```

some Block level elements:

```
<address> <article> <aside> <canvas>  
<dd> <div> <dl> <dt> <fieldset>  
<hr> <li> <math> <ol> <p>  
<pre> <table> <section> <ul> <video>
```



Inline Elements

- An inline element does not start on a new line.
- An " " only takes up as much width as necessary
- This is [a element] inside a paragraph.

Example

```
<span> Hello World </span>
```

Some inline elements in HTML:

```
<a> <abbr> <acronym> <b> <bdo>  
<big> <br> <button> <cite> <code>  
<output> <q> <samp> <script>  
<select> <small> <span> <sup>  
<time> <var> <object> .
```



⑦ What is CSS selector? Explain different types of selector with suitable example.

- A CSS selector selects the HTML elements you want to style.

① The CSS element Selector

The element selector selects HTML elements based on the element name.

Example:

Here, all `<p>` elements on the page will be center-aligned, with red text color.

`P {`

`text-align: center;`

`color: red;`

`}`

② The CSS id Selector:

- The id selector uses the `id` attribute of an HTML element to select specific elements.
- The `id` of an element is unique within a page, so the id selector is used to select one unique element.
- To select an element with a specific `id`, write a hash (#) character, followed by the `id` of the element.



Example:

The CSS rule below will be applied to the HTML element with id = "para1".

```
#para1 {  
    text-align: center;  
    color: red;  
}
```

The CSS class selector:

The class selector selects HTML elements with a specific class attribute.

To select elements with specific class, write a period (.) character, followed by the class name.

Example

In this example all HTML elements with class = "center" will be red & center aligned.

```
.center {  
    text-align: center;  
    color: red;  
}
```

You can also specify that only specific HTML elements should be affected by a class.

Example

In this example only `<p>` elements with class = "center" will be red & center-aligned.

```
p.center {
```

```
    text-align: center;
```

```
    color: red;
```

```
}
```



The CSS Universal selector:

The universal selector (*) selects all HTML elements on the page.

Example:

The CSS rule below will affect every HTML element on the page.

```
*
```

```
{
```

```
    text-align: center;
```

```
    color: blue;
```

```
}
```

The CSS Grouping selector

The Grouping selector selects all the HTML elements with the same style definitions.

In the following example, The elements h2, h2 & p have the same style definition given below;

```
h2, h2, p {  
    text-align: center;  
    color: red;  
}
```

⑧ What is HTML form? Differentiate between "GET" & "POST" methods used to send form data.

- An HTML form is used to collect user input. The user input is most often sent to a server for processing.
- The `<form>` element is used to create an HTML form for user input.

`<form>`

-- form elements --

`</form>`

Differentiate Between Get & Post

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GET

POST

- | | |
|---|---|
| ① In GET Method, Values are visible in the URL. | ② In Post Method, Values are not visible in the URL. |
| ② GET has a limitation on the length of the values, generally 255 characters. | ② POST has no limitation on the length of the values since they are submitted via the body of HTTP. |
| ③ GET performances are better compared to POST because of the simple nature of appending the values in the URL. | ③ It has lower performance because of time spent in including POST values in the HTTP-body. |
| ④ Supports only string data types. | ④ This method supports different DT such as string, numbers, binary etc. |
| ⑤ GET results can be bookmarked. | ⑤ Post results cannot be bookmarked. |
| ⑥ These GET Requests are cacheable. | ⑥ Hardly Cacheable. |



Q) Discuss about normal flow box layout in CSS & also Discuss about positioning in CSS.
→ Normal Flow is the way that Block & inline elements are displayed on a page before any changes are made to their layout. The flow is essentially a set of things that are all working together and know about each other in your layout. Once something is taken out of flow it works independently.

In Normal flow, inline elements display in the inline direction, that is in the direction words are displayed in a sentence according to the writing mode of the document. Block elements display one after the other, as paragraphs do in the writing mode of that document. In English therefore, inline elements display one after the other, starting on the left, and block elements start at the top and move down the page.

CSS helps you to perform your position your HTML element. You can put only HTML element at whatever location you like. You can specify whether you want the element positioned relative to its natural position in the page or absolute

based on its parent element.

The types of positioning in CSS are as follows:-

Relative Positioning:

Relative positioning changes the position of the HTML element relative to where it normally appears. so "left: 20;" adds 20 pixel to the element's left position.

Absolute Positioning:

An element with `position: absolute;` is positioned relative to the nearest positioned ancestor.

However, if an absolute positioned element has no positioned ancestors, it uses the document body, & moves along along with page scrolling.

Simple example:

This `<div>` element has `position: absolute;`

This `<div>` element
has `position: absolute;`

css used:

div {
position: relative;

width: 400px;

height: 200px;

border: 3px solid #73AD21;

}

div {
position: absolute;

top: 20px;
right: 0;

width: 200px;

height: 200px;

border: 3px solid #73AD21;

}

③ fixed position:

An element with `position: fixed;` is positioned relative to the `viewport`, which means it always stays in the same place even if the page is scrolled. The `top`, `right`, `bottom`, & `left` properties are used to position the element.

A fixed element does not leave a gap in the page where it would normally have been located.

CSS used:

```
div {  
    position: fixed;  
    bottom: 0;  
    right: 0;  
    width: 300px;  
    border: 3px solid #73AD21;  
}
```

④ static position.

HTML elements are positioned static by default. Static positioned are not affected by top, bottom, left & right properties.

The element with `position: static;` is not positioned in any special way, it is always positioned according to the normal flow of page.

Example

```
div {  
    position: static;  
    border: 3px solid #73AD21;  
}
```

⑨ Explain with example of the basic concept of cascading and inheritance in CSS.

→ CSS Cascade:

It deals with precedence of style rules or CSS properties (i.e. the order in which property are applied to an HTML element). It solves conflict situations.

When we define a set of rules for a specific tag in external, internal as well as inline styles, then browser creates a virtual declaration list by merging all the style rules together by following rules of cascade, & then applies the merged virtual declaration list to specified tag.

The rules for cascade include;

- Later properties (nearest) override earlier (farther) properties.

- More specific selectors (less generic) override less specific (more generic) selectors.



Example

```
<!DOCTYPE html>
<head>
<title> This is title </title>
<link rel="stylesheet" href="cascading.css" >
<style>
  p {
    color: pink;
  }
</style> </head>
<body>
  <p style="color: red;"> This is paragraph </p>
</body>
</html>
```

Cascading.css

```
p {
  color: yellow;
}
```

In this example 3 types of css applied having the same line of property but According to rule of cascading firstly inline css is applied because it is the nearest property in the HTML document.

Inheritance:

css inheritance deals with how style poured down from a parent element to its child elements. certain properties like font-family gets inherited. If you set a font-family on the body element, then it will get inherited by all the elements within the body.

The same is true for color, but it is not true for background or height which always default to transparent & auto.