

1) Define - HTML, CSS, JavaScript. Give the characteristics of each

→ HTML stands for Hyper text markup language  
HTML is the standard markup language for creating web pages.

HTML describes the structure of a web page  
HTML elements tell the browser how to display the content

Syntax

< tagname > Content goes here... </ tagname >

Characteristics of HTML

1) New Tags for Better Structure - HTML introduces new tags < header >, < footer >, < article > and < section > to help organize

2) Built-in Audio and video - you can easily add audio and video to webpage using the < audio > and < video > tag.

3) Graphics with canvas - The < canvas > tag lets you draw and create graphics like charts or games, directly.

4) Location Services - HTML5 can detect your location using the Geolocation feature, helpful for location.

CSS - CSS stands for cascading style sheets. It describes to the user how to display HTML elements on the screen in a proper format. CSS is the language that is used to style HTML documents.

## characteristics of CSS

- 1] Selectors - New and advanced selectors like attribute, Pseudo-classes, and Pseudo-elements.
- 2] Box Model - Improved layout control with properties like box-sizing and flexible box layout (flexbox).
- 3] Transitions - Smooth, animations when properties change (e.g., color, size).
- 4] Animations - Keyframes for creating complex animation without Javascript.
- 5] Transforms - Rotate, Scale, skew, and translate elements in 2D and 3D space.

## Javascript

Javascript is a programming language used to create dynamic content for websites. It is a lightweight, cross-platform, and single-threaded programming language. Javascript is an interpreted language that executes code line by line providing more flexibility.

## characteristics of Javascript

- 1] light-weight scripting language  
Javascript is designed for client-side execution, making it lightweight for web application.
- 2] Dynamic Typing

Javascript variables' types are determined by the value assigned, without needing explicit type declarations.

3] Object - oriented Programming support Javascript  
support object - oriented programming with  
concepts like classes, encapsulation and inheritance.

4] Single - threaded

Javascript executes one task at a time by default, but asynchronous features allow for parallel execution.

5] Web workers

Web workers allow background processing in separate threads, enabling parallel execution for resource-heavy tasks.

Q2] Define the following tags with Syntax 3 examples

a) Image tag

<IMG> Tag this tag is used to insert align and size an image. An image can be put in an HTML document using <IMG> tag's SRC attribute as follows

<IMG SRC = "filename"/>

e.g - <IMG SRC = "d:\abc.jpg"/>

<IMG SRC = "abc.jpg"/>

b) List Tag

The <Li> Tag defines a list item. This tag is used inside

unordered HTML list

An unordered list starts with the <ul> tag.  
Each list items starts with the <li> tag.

E.g - <html>

<body>

`<h2> An unordered HTML list </h2>`

`<ul>`

`<li> coffee </li>`

`<li> Tea </li>`

`<li> milk </li>`

`</ul>`

An unordered HTML list

• coffee

• Tea

• Milk

`</body>`

`</html>`

### Ordered HTML list

An ordered list starts with the `<ol>` tag

Each list item starts with the `<li>` tag

E.g -

`<html>`

`<body>`

`<h2> An ordered HTML list </h2>`

`<ol>`

`<li> coffee </li>`

`<li> Tea </li>`

`<li> Milk </li>`

An ordered HTML list

1. coffee

2. Tea

3. Milk

### c) Table Tag

Many times we need to include statistical, commercial or scientific type of data in our web page.

Table provide us a way of arranging this kind of data in a distributed and systematic manner.

< TABLE > ... < /TABLE > Tag

E.g -

```
<!DOCTYPE html>
<html>
<style>
table, th, td {
border: 1px solid black;
}
</style>
<body>
```

```
<table style='width:100%;'>
```

```
<tr>
<th> Company </th>
<th> Contact </th>
<th> Country </th>
</tr>
```

~~```
<tr>
<td> Centro Commercial </td>
<td> Francisco Change </td>
<td> Mexico </td>
</tr>
```~~

```
</table>
</body>
</html>
```

a) Div tag

The < div > Tag defines a division or a section in an HTML document.

The `<div>` tag is used as a container for HTML elements which is then styled with CSS or manipulated with Javascript

The `<div>` tag is easily styled by using the class or id attribute.

Example

```
<html>
```

```
<head>
```

```
<div style="border: 6px solid pink;">
```

```
<p> welcome to Javapoint.com, where you get tutorials  
on latest technologies </p>
```

```
<p> This is second Paragraph </p>
```

```
</div>
```

```
</body>
```

```
</html>
```

O/P

welcome to Javapoint.com

### e] Text formatting tags

Text formatting tags are used to format the text being displayed on the web page. Formatting includes changing the font size, pattern, color etc.

`<strong> .. </strong>`

This is ~~use~~ used to emphasize a particularly important section of text.

Eg. `<strong><LS GCC</strong>`

**<EM> ... </EM>**

This element is used to indicate a section of that the author wants to identify as significant.  
Eg - <em> KLS Gce</em>

**<DEN> ... </DEN>**

This element is used to create sub-definition in a defining list.

**<B> ... </B>** - Text that appears in between is displayed in bold this tag

**<U> ... </U>** - This tag is displayed in underlined

**<I> ... </I>** - This tag is displayed in italic style

**<small> ... </small>**

**<Big> ... </Big>**

**<sub> ... </sub>** It defines subscript

**<strike> ... </strike>** element draws a horizontal line through the middle of text contained within.

## f] Form Tag

**<Form> ... </form>** tag : This is used to create forms it tells web browser which part of the web page content is part of a form.

- Method = "get" . Data is transferred to server as a part of URL not recommended for confidential data as data is visible to everyone.

- Method = "post" . Data is transferred in a embedded manner

data being transferred is not visible to anyone.

First Name : <input type="text" name="first Name">

Last Name : <input type="text" name="Last Name">

### a) Span Tag

The <Span> tag is an inline container used to mark up a part of a text or a part of document.

The <span> tag is easily styled by CSS or manipulated with Javascript using the class or id attribute.

Example

```
<html>
```

```
<body>
```

```
<h1> The span element </h1>
```

```
<p> My mother has <span style="color: blue;">
```

```
:blue</span>
```

eyes and my father has <span style="color: red;">

dark green </span> eyes </p>

```
</body>
```

```
</html>
```

### b) Frame tag

HTML <frame> tag is used to divide web browser windows into multiple sections, each capable of loading content independently.

\* The HTML <i and name> tag specifies an inline frame

\* The src attribute defines the URL of page to embed

- \* Always include little attribute
- \* The height and width attributes specify the size of the i and name.

Example

```
<html>
```

```
<body>
```

```
<h1> The i & frame element </h1>
```

```
<i><iframe src = "https://www.w3schools.com" title =  
"w3schools Free HTML Online web Tutorials">
```

```
</i>
```

```
<iframe src = "https://www.w3schools.com/html/  
default.asp" title = "Facebook">
```

```
</iframe>
```

```
</body>
```

```
</html>
```

Q3] Design a log in form using HTML, CSS &  
Javascript.

→

```
<html>
```

```
<head>
```

```
<title> Login Page </title>
```

```
</head>
```

```
<body background = "pocaderblue">
```

```
<center>
```

```
<h1> Assignment </h1>
```

```
< form >
< h1 > Student login from <br/> </h1> <br/>
< label > Username : </label >
< input type = "text" Id = "uname" name = "text" >
< br/> <br/>
< label > Password : </label >
< input type = "password" Id = "pass" >
name = "password" maxlength = "8" >
< br/> <br/>
< button type = "Submit" onclick = "check login" >
</button>
</form>
< center >
```

<script>

```
function check login(
```

```
) {
```

```
var u = document.getElementById('uname')
```

```
var p = document.getElementById('pass').value
```

```
; and (u == "admin" && p == "bc123")
```

```
}
```

```
    alert ("login successful");
```

```
}
```

```
else
```

```
{
```

```
    alert ("login unsuccessful");
```

```
}
```

```
}
```

4) Explain levels of style sheet in CSS:

→. Inline CSS

• Internal / Embedded CSS

• External CSS

### Internal CSS

- An internal style sheet may be used if one single HTML page has a unique style.
- The internal style is defined inside the `<style>` element, inside the `head` section.

### General form

`<style type = "text/css">`

rule list

`</style>`

### Example

~~`<html>`~~

`<head>`

`<style>`

`body`

`{`

`background-color: linen;`

`}`

`h1`

`{`

`color: maroon;`

`margin-left: 40px;`

`}`

`</style>`

`</head>`

`</body>`

..... in a html file

<p> This is a paragraph </p>

</body>

</html>

## 2) External CSS

- The external style sheet is generally used when you want to make changes on multiple pages.
- External styles are defined within the <link> element, inside the <head> section of an HTML page.
- The external style sheet can written in any text editor & saved with .css extension.

General form

<link rel = "stylesheet" type = "text/css"

href = "http://www.wherever.org/termpaper.css">

</link>

Gen

Example

<html>

<head>

<link rel = "stylesheet" href = "mystyle.css">

</head>

<body>

Exa

<h1> This is a heading </h1>

<p> This is a paragraph </p>

</body>

</html>

```
body {  
    background-color: lightblue;  
}  
  
h1 {  
    color: navy;  
    margin-left: 20px;  
}
```

### 3) Inline CSS

- In inline style may be used to apply a unique style for a single element.
- To use inline style add the style attribute to the relevant element. The style attribute can contain any css property.

#### General Format

```
style = "property-1 : value-1;  
        property-2 : value-2;
```

~~"Property - n : value - n;"~~

#### Example

```
<html>
```

```
<body>
```

```
<h1 style = "color : blue; text-align : center;">
```

This is a heading </h1>

```
<p style = "color : red;"> This is a paragraph </p>
```

```
</body>
```

```
</html>
```

5] Explain screen output and keyboard input in Javascript.  
→ using innerHTML  
To access an HTML element, Javascript can use the document.get Element By Id(id) method

Example

```
<html>
```

```
<body>
```

```
    <h1> my first web page</h1>
    <p> my first Paragraph </p>
```

```
    <p id = "demo"></p>
```

```
    <Script>
```

```
        document.get Element By Id ("demo"). InnerHTML = STG;
```

```
</Script>
```

```
</body>
```

```
</html>
```

⇒ using document.write()

Example

```
<html>
```

```
<body>
```

```
    <h1> My first web page</h1>
```

```
<Script>
```

```
    document.write(STG);
```

```
</Script>
```

```
</body>
```

```
</html>
```

\* using window.alert()

Example

```
<html>
```

```
<body>
```

```
<Script>
```

```
window.alert('StC');
```

```
</script>
```

```
</body>
```

```
</html>
```

\* using console.log()

Example

```
<html>
```

```
<body>
```

StC;  
~~<p> F12 on your keyboard will activate debugging </p>~~

~~<p> Then select "console" in the debugger menu </p>~~

```
<Script>
```

```
console.log('StC'),
```

```
</Script>
```

```
</body>
```

```
</html>
```

Keyboard input in Javascript

using prompt() for user input

The prompt() function is one of the simplest

ways to get user input in Javascript  
This build in function opens a dialog box where  
the user can type something  
the value is returned as string

Example

```
<html>
<body>
<Script>
let username = Prompt ("what is your name?");
alert ("Hello, " + username + "!");
<script>
</body>
```

Self