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Hyper Text Markup Language HTML - Advance - Module 6

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HYPER TEXT MARKUP LANGUAGE (HTML)

Frames and Iframes in HTML

1. Frames (Obsolete)

Frames were used in older versions of HTML to divide a web page into multiple sections, each displaying a different HTML document. With frames, a user could see different parts of a website within a single window (like a menu on the left, and the content on the right).

However, frames are now obsolete and no longer recommended for use because:

- They cause accessibility issues.
- Search engines have difficulty indexing content inside frames.
- Maintaining framed websites is cumbersome.
- They often break browser navigation (like the back button).

The <frameset> tag in HTML is used to divide the browser window into multiple frames, each capable of loading a separate HTML document. This tag was primarily used in older HTML versions to create layouts but is now deprecated in HTML5 due to usability and accessibility issues. Below are the attributes of the <frameset> tag and their explanations.

Attributes of the <frameset> Tag:

1. rows

Purpose: Divides the window horizontally into rows.
Value: A comma-separated list specifying the height of each row.
Example:
<frameset rows="50%, 50%">

This divides the window into two equal horizontal frames.

2. cols

Purpose: Divides the window vertically into columns.
Value: A comma-separated list specifying the width of each column.
Example:
<frameset cols="30%, 70%">

This creates two vertical frames where the first occupies 30% and the second 70% of the window width.

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3. border

Purpose: Specifies the thickness of the borders between frames.
Value: A number indicating the border width in pixels.
Example:
`<frameset cols="50%,50%" border="5">`

4. frameborder

Purpose: Determines whether to display a border around each frame.
Value: "1" (default, border visible) or "0" (no border).
Example:
`<frameset cols="50%,50%" frameborder="0">`

5. framespacing

Purpose: Sets the amount of space between adjacent frames.
Value: A pixel value indicating the spacing.
Example:

`<frameset cols="50%,50%" framespacing="10">`

Attributes of the <frame> Tag:

The <frame> tag in HTML was used within a <frameset> to load and display individual documents inside a browser window divided into multiple frames.

Attributes of the <frame> Tag:

1. src

Purpose: Specifies the URL of the document to display within the frame.
Example:
`<frame src="header.html">`

2. name

Purpose: Assigns a name to the frame for reference, useful for targeting links to open in a specific frame.
Example:

`<frame src="content.html" name="contentFrame">`

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3. scrolling

Purpose: Controls whether a scrollbar appears inside the frame.
Values:
"yes": Always show a scrollbar.
"no": Do not show a scrollbar.
"auto": Show scrollbar only if needed.
Example:

```
<frame src="menu.html" scrolling="yes">
```

Simple Program using Frameset

```
<!DOCTYPE html>
<html>
<head>
<title>Basic Frameset Example</title>
</head>
<frameset cols="30%,70%">
<frame src="C:\Users\Asus\Documents\menu.html" name="menuFrame" scrolling="no">
<frame src="C:\Users\Asus\Documents\welcome.html" name="contentFrame" scrolling="auto">
</frameset>
</html>
```

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Menu

- [About Us](#)
- [Contact Us](#)
- [Services](#)

Output of a Program using Simple Frameset

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Computer and Humans: A Dynamic Relationship!

The relationship between computers and humans has evolved dramatically, shaping nearly every aspect of modern life. Computers, which began as tools for complex calculations and data management, now play an integral role in communication, business, entertainment, healthcare, and more. Similarly, humans have adapted to rely on computers not only for productivity but also for creative and social purposes.

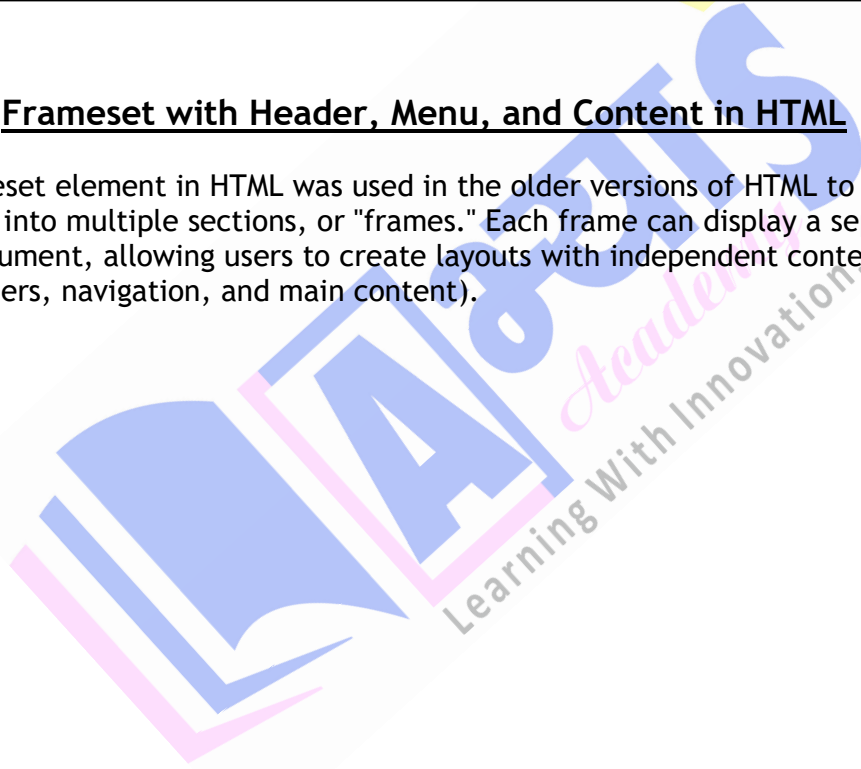
Computers excel in speed, precision, and automation, making them highly effective at handling repetitive tasks and large datasets. This enables industries such as finance, education, and healthcare to become more efficient. For example, AI-powered systems can now assist doctors in diagnosing diseases, while automation streamlines manufacturing and logistics.

However, humans bring qualities that computers lack: creativity, emotional intelligence, and ethical judgment. Human intuition allows for adaptability in uncertain situations where rigid programming might fail. As a result, the most impactful innovations occur at the intersection of human ingenuity and computer capabilities.

While computers have transformed communication by enabling instant connections across the globe, they also present challenges. Digital dependency and concerns about privacy and security are growing, requiring humans to balance their use of technology wisely. Ethical issues also arise, especially with advancements in artificial intelligence, where computers make decisions that can affect lives.

Frameset with Header, Menu, and Content in HTML

The frameset element in HTML was used in the older versions of HTML to divide a web page into multiple sections, or "frames." Each frame can display a separate HTML document, allowing users to create layouts with independent content areas (like headers, navigation, and main content).



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```

<!DOCTYPE html>
<html>
<head>
<title>Frameset Example: Header, Menu, and Content</title>
</head>
<frameset rows="20%, 20%, 60%" border="2">
<!-- Header Frame -->
<frame src="C:\Users\Asus\Documents\header.html" name="header" scrolling="no" frameborder="1">
<!-- Menu Frame -->
<frame src="C:\Users\Asus\Documents\menu.html" name="menu" scrolling="no" frameborder="1">
<!-- Main Content Frame -->
<frame src="C:\Users\Asus\Documents\content.html" name="content" frameborder="1">
</frameset>
<noframes>
<body>
<p>Your browser does not support frames. Please update to a modern browser.</p>
</body>
</noframes>
</html>
    
```

Frameset Example: Header, Menu, and Content

Welcome to My Website

Your one-stop portal for all things tech!

Menu

- [About Us](#)
- [Contact Us](#)
- [Services](#)

Welcome to the Main Content Area

Select a menu option to display relevant information here.

Output of Frameset with Header, Menu, and Content



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Nested Frameset with Images

A nested frameset divides a webpage into multiple sections (or frames), with one frameset inside another. In this example, we will:

- Divide the top half of the screen into two columns, each displaying an image.
- Use the bottom half to display text content.

This structure helps in showing a mix of images and content efficiently within a single browser window.

Steps for Creating the Nested Frameset Layout:

- Outer Frameset: Divide the window into two horizontal rows - one for the images and the other for the content.
- Nested Frameset: The top row will be further divided into two vertical columns to display two different images.
- Bottom Row: Contains a frame for displaying text content.

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Nested Frameset Example</title>
</head>
<!-- Outer frameset: Divides the page into two horizontal rows -->
<frameset rows="50%, 50%">
  <!-- Nested frameset: Divides the top row into two columns -->
  <frameset cols="50%, 50%">
    <frame src="C:\Users\Asus\Documents\Image1.html" name="leftImage" frameborder="0" scrolling="no">
    <frame src="C:\Users\Asus\Documents\Image2.html" name="rightImage" frameborder="0" scrolling="no">
  </frameset>
  <!-- Bottom frame for content -->
  <frame src="C:\Users\Asus\Documents\content.html" name="bottomContent" frameborder="1">
</frameset>
</html>
  
```

**Nested Frameset
Example**

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**Output of Nested
Frameset Example**



Welcome to the Main Content Area






Select a menu option to display relevant information here.

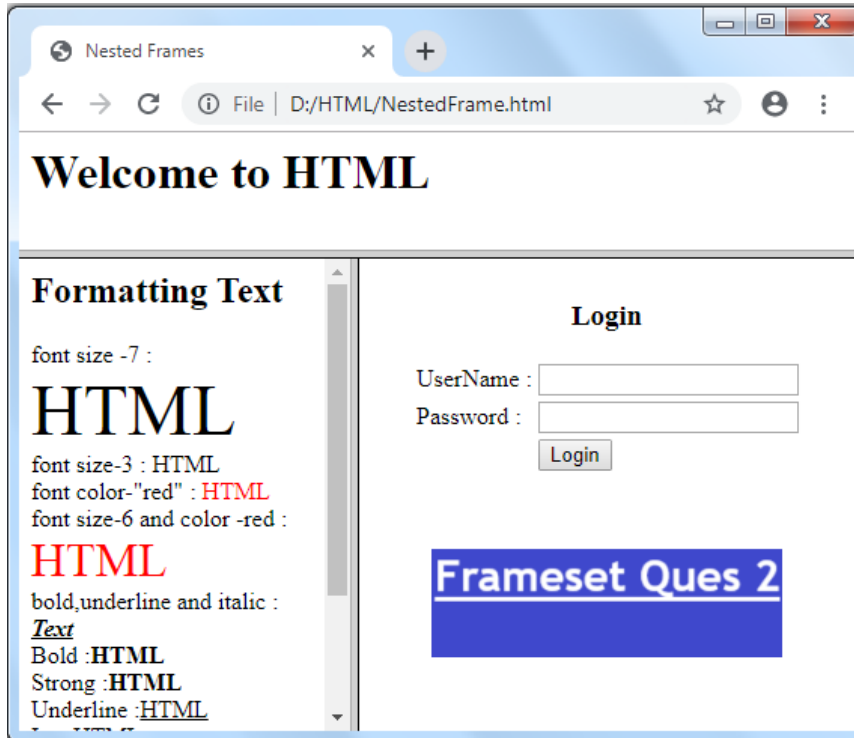
Assignment on Frameset

Name of Institute with Image		
Computer Fundamentals	Default page After clicking link given in left pannel, the appropriate content of that page must be displayed in this section <div style="border: 1px solid black; padding: 5px; display: inline-block;">Frameset Ques 1</div>	News / Other Instructions in marquee effect
Communication Skills		
Language C		
HTML & Networking		
Date of creation	Developed By : Your Name	

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Welcome to Registration Portal

Name:

Email:

Gender:
 Male Female

Select Your Skills:

Available Courses

- Web Development (HTML, CSS, JavaScript)
- Data Science (Python, R)
- Cloud Computing (AWS, Azure)
- Machine Learning (TensorFlow, Scikit-learn)

Frameset + Lists + Form
Assignment
Ques 3

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Iframe in HTML

The <iframe> (short for inline frame) is an HTML element that allows you to embed another webpage or document within a webpage. It acts like a “window” on a webpage, displaying the content from an external source (or another part of the same site).

NOTE: It is like embedding a YouTube video or a Google Map on a website, where the video or map is shown directly from their original servers but within your webpage.

Importance of Using HTML iframes

- Allows for content integration from various sources. This means you can easily embed multimedia elements such as videos, maps, or interactive content from other platforms into your webpage.
- Updating content within an iframe can be more straightforward compared to updating content on a regular webpage.
- Iframes support modular web design by allowing developers to create reusable web components. This feature can be a significant timesaver, as developers can create a component once and reuse it across different webpages or even different websites, maintaining consistency and reducing the time and effort needed for coding.

Syntax of an iframe element

```
<iframe src="https://www.example.com" width="600" height="400" title="Example Website"></iframe>
```

In this syntax: is the tag that initiates the iframe. The src attribute specifies the URL of the page to display in the iframe. The width and height attributes define the dimensions of the iframe.

Attributes of <iframe>

- 1. src:**
 - Defines the URL to be loaded in the frame.
 - Example: <iframe src="https://www.youtube.com"></iframe>
- 2. width and height:**
 - Control the size (in pixels) of the iframe.
 - Example: <iframe width="500" height="300"></iframe>
- 3. title:**
 - Describes the frame for better accessibility. Screen readers use it to explain the embedded content.
- 4. frameborder:**

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- Controls the border around the frame. Values: 0 (no border) or 1 (with border).
- Example: `<iframe frameborder="0"></iframe>`
- 5. allowfullscreen:**
- Allows the iframe content (like videos) to go fullscreen.
- Example: `<iframe allowfullscreen></iframe>`

When to Use <iframe>?

- Embed videos: Embedding a YouTube video.
- Embed maps: Displaying a Google Map.
- Display external content: Loading another website or document.
- Show dynamic content: Using an iframe to embed live updates (like weather widgets).

Example of an Embedded YouTube Video

```

<!DOCTYPE html>
<html lang="en">
<head>
  <title>Embedded YouTube Video</title>
</head>
<body>
  <h1>Watch This Video</h1>

  <iframe
    src="https://www.youtube.com/embed/MF16bQTRwYq?si=Abw8t299ykmCCO-a"
    width="560"
    height="315"
    frameborder="0"
    allowfullscreen
    title="Embedded YouTube Video"
  ></iframe>

  <p>Enjoy this video directly on our page. You can also visit <a href="https://www.youtube.com" target="_blank">YouTube</a> for more content.</p>
</body>
</html>

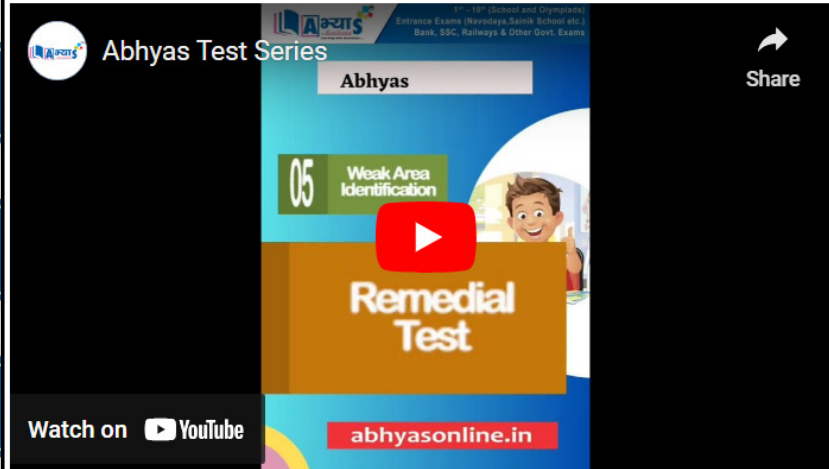
```

**Example of an
Embedded YouTube
Video**

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Watch This Video



**Output of an
Embedded
YouTube Video**

Enjoy this video directly on our page. You can also visit [YouTube](https://www.youtube.com) for more content.

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This is done by accessing the embedable player/code by using an iFrame.

- Go to any Youtube video and click SHARE.
- In the Share options, click EMBED and it generates the iFrame code
- To get embed URL (usable in iFrame) :
- Use : <https://www.youtube.com/embed/> followed by the VIDEO_ID.

Example:

- Taking <https://www.youtube.com/watch?v=wJOfJdWGPMk>.
- Where VIDEO_ID = wJOfJdWGPMk.
- The iFrame / Embed URL is : <https://www.youtube.com/embed/wJOfJdWGPMk>

Assignments on iFrame

Ques 1: Embed a Map with Navigation:

- Create a webpage where you embed a Google Map of your favorite city using an iframe.
- Adjust the width and height to make it responsive on different screen sizes.
- Add frameborder and title attributes for accessibility.

Ques 2: Nested iframes with Scrolling:

- Create a page with two nested iframes where one iframe embeds a webpage, and inside that iframe, include another iframe for another webpage.

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- Add scrolling properties (scrolling="yes") to the inner iframe to see how it affects usability.

Ques 3: Video Gallery:

- Design a video gallery using iframes to embed videos from YouTube or Vimeo.
- Arrange three videos in a row and set the dimensions so that they display neatly side-by-side on desktop but stack vertically on smaller screens.

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