

Ordered Lists () in HTML

Definition:

An **Ordered List** is used to display a list of items in a specific **sequence** (like steps, rankings, etc.). Each item is automatically numbered by the browser.

Syntax:

```
<ol>  
  <li>Item 1</li>  
  <li>Item 2</li>  
  <li>Item 3</li>  
</ol>
```

Output:

1. Item 1
2. Item 2
3. Item 3

Attributes of :

| Attribute Description | Example |
|--|--|
| type Defines the type of numbering | type="A", type="a", type="I", type="i", type="1" |
| start Sets the starting number | start="5" |
| reversed Reverses the order of numbering | reversed |

Type Attribute Examples:

```
<ol type="A">  
  <li>Apple</li>  
  <li>Banana</li>  
</ol>
```

Output:

- A. Apple
- B. Banana

```
<ol type="i">  
  <li>Step One</li>  
  <li>Step Two</li>  
</ol>
```

Output:

- i. Step One
- ii. Step Two

Using start and reversed:

```
<ol start="5">  
  <li>Point A</li>  
  <li>Point B</li>  
</ol>
```

Output:

5. Point A
6. Point B

```
<ol reversed>  
  <li>Final Step</li>  
  <li>Second Last Step</li>  
</ol>
```

Output:

2. Final Step
1. Second Last Step

Example:

```
<html>  
  <head>  
    <title>Order List</title>  
  </head>  
  <body>  
    <ol>  
      <li>Item 1</li>  
      <li>Item 2</li>  
      <li>Item 3</li>  
    </ol><br>
```

```
<hr>
```

```
<ol type="A">
```

```
  <li>Apple</li>
```

```
  <li>Banana</li>
```

```
</ol><br><hr>
```

```
<ol type="i">
```

```
  <li>Step One</li>
```

```
  <li>Step Two</li>
```

```
</ol><br>
```

```
<hr>
```

```
<ol start="5">
```

```
  <li>Point A</li>
```

```
  <li>Point B</li>
```

```
</ol><br>
```

```
<hr>
```

```
<ol reversed>
```

```
  <li>Final Step</li>
```

```
  <li>Second Last Step</li>
```

```
</ol>
```

```
</body>
```

```
</html>
```

Unordered Lists () in HTML

Definition:

An Unordered List is used to display a list of items without a specific order. The list items are typically marked with bullets (●) by default.

Syntax:

```
<ul>  
  <li>Item A</li>  
  <li>Item B</li>  
  <li>Item C</li>  
</ul>
```

Output:

- Item A
- Item B
- Item C

Attributes of :

| Attribute | Description | Example |
|-----------|---|---------------|
| type | Defines bullet style (disc, circle, square) | type="circle" |

```
<ul type="square">  
  <li>Red</li>  
  <li>Green</li>  
</ul>
```

Examples:

```
<html>  
  <head>  
    <title>Order List</title>  
  </head>  
  <body>
```

```
    <ul>  
      <li>Item A</li>  
      <li>Item B</li>  
      <li>Item C</li>  
    </ul><br><hr>
```

```
<ul type="square">  
  <li>Red</li>  
  <li>Green</li>  
</ul><br><hr>
```

```
<ul type="circle">  
<li>MBA</li>  
<li>MCA</li>  
<li>BCA</li>  
<li>BBA</li>  
</ul><br>
```

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

Description Lists (<dl>) in HTML

Definition:

A Description List is used to display terms and their descriptions, such as in a glossary, FAQ, or list of definitions.

It is made up of three main tags:

- <dl> — Description List (wrapper)
- <dt> — Description Term (what is being defined)
- <dd> — Description Definition (the explanation)

Syntax:

```
<dl>  
  <dt>HTML</dt>  
  <dd>A markup language for creating web pages. </dd>  
  <dt>CSS</dt>  
  <dd>A style sheet language used for describing the look of a  
document. </dd>  
</dl>
```

Output:

HTML

A markup language for creating web pages.

CSS

A style sheet language used for describing the look of a document.

Assignments

Q1.

Create an HTML page with the heading “My Favorite Fruits” and use an ordered list (

) to list 5 fruits.

Q2.

Make a webpage that shows a list of subjects you study in school or college using an unordered list (

).

Q3.

Create a description list (

) of 3 computer parts with their names and short descriptions. Example:

- Monitor – It displays the output.
- Keyboard – Used to type data.
- Mouse – Used to control the pointer.

Q4.

Create an ordered list titled “Steps to Start a Computer” with 4–5 simple steps like pressing the power button, waiting for loading, etc.

Q5.

Design a basic webpage with:

- Your school’s name and class using a description list
- Your 5 best friends’ names using an unordered list
- Your daily school activities using an ordered list

Anchor Tag ()

Definition:

The anchor tag <a> is used to create hyperlinks in HTML. It allows users to navigate to another webpage, section, or file.

Basic Syntax:

```
<a href="URL">Link Text</a>
```

- href stands for hypertext reference
- URL can be a web address, email, or internal page link
- The text between <a> and is the clickable link

Types of Links

Internal Links

Used to link within the same website or page.

Example: Link to another page in the same website

```
<a href="about.html">About Us</a>
```

Example: Link to a specific section on the same page

```
<! -- Link -->
```

```
<a href="#contact">Go to Contact Section</a>
```

```
<! -- Target section -->
```

```
<h2 id="contact">Contact Us</h2>
```

External Links

Used to link to other websites outside your domain.

Example:

```
<a href="https://www.google.com">Visit Google</a>
```

Opening Links in a New Tab

Use the target="_blank" attribute to open the link in a new tab.

Example:

```
<a href="https://www.w3schools.com" target="_blank">Open  
W3Schools in New Tab</a>
```

Tip: For security, you can also add rel="noopener noreferrer" with target="_blank".

```
<a href="https://www.example.com" target="_blank" rel="noopener  
noreferrer">
```

Visit Example Site

```
</a>
```

Other Common Attributes:

| Attribute | Description |
|------------------|---|
| href | Destination URL |
| target="_blank" | Opens link in a new tab |
| title | Shows tooltip on hover |
| download | Forces download of the linked file |
| id | Used to target sections with internal links |

Summary:

| Link Type | Example Code | Opens In |
|------------------|--|-----------------|
| Internal Page | <code>Home</code> | Same tab |
| Page Section | <code>Footer</code> | Scrolls on page |
| External Link | <code>Google</code> | Same tab |
| New Tab | <code>Visit</code> | New tab |

Example:

```
<html>
<head>
  <title>Anchor Tag Example</title>
</head>
<body>
  <h1>Anchor Tag Examples</h1>
  <h2>1. Internal Link</h2>
  <p>
    <a href="class_02_ol.html">Go to OL Page</a>
  </p>
```

```
<h2>2. Link to Section on Same Page</h2>
```

```
<p>
```

```
 <a href="#contact">Jump to Contact Section</a>
```

```
</p>
```

```
<h2>3. External Link</h2>
```

```
<p>
```

```
 <a href="https://www.google.com">Visit Google</a>
```

```
</p>
```

```
<h2>4. Open Link in New Tab</h2>
```

```
<p>
```

```
 <a href="https://www.usbm.ac.in" target="_blank" >
```

```
   Open USBM in a New Tab
```

```
 </a>
```

```
</p><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>
```

```
<br><br><br>
```

```
<h2 id="contact">Contact Us</h2>
```

```
<p>Email: contact@example.com</p>
```

```
</body>
```

```
</html>
```

Anchor Tag Assignments

Q1. Create a Link to Google

Task:

Create a simple HTML page with a clickable link that takes the user to www.google.com.

Q2. Open a Website in a New Tab

Task:

Create a link to www.wikipedia.org and make it open in a **new tab** using target="_blank".

Q3. Link Two Pages

Task:

Create two pages:

- page1.html
- page2.html

Add a link on page1.html to open page2.html, and vice versa.

Q4. Create a Link to an Image

Task:

Create a link that opens an image (e.g., photo.jpg) when clicked.

Q5. Link to a YouTube Video

Task:

Create a link that opens a YouTube video in the browser. You can use any video link of your choice.

Images and Multimedia in HTML

1. Inserting Images: Tag

Purpose:

The tag is used to display images in a webpage.

Basic Syntax:

```

```

2. Important Attributes of

| Attribute | Description | Example |
|-----------|--|------------------|
| src | Source of the image file | src="pic.jpg" |
| alt | Alternate text shown if image doesn't load | alt="Logo Image" |
| width | Sets the width of the image (in px or %) | width="200" |
| height | Sets the height of the image (in px or %) | height="150" |

Example:

```

```

3. Embedding Videos and Audio

Video Element: <video>

Used to embed a video file in your webpage.

Example:

```
<video width="320" height="240" controls>
```

```
<source src="movie.mp4" type="video/mp4">  
Your browser does not support the video tag.  
</video>
```

Audio Element: <audio>

Used to embed sound or music.

Example:

```
<audio controls>  
<source src="song.mp3" type="audio/mpeg">  
Your browser does not support the audio tag.  
</audio>
```

4. HTML5 Multimedia Elements

| Element | Purpose |
|-----------------------|--|
| <video> | Embeds video files |
| <audio> | Embeds audio/music files |
| <source> | Defines multiple media sources for audio/video |
| controls | Adds play, pause, volume controls |
| autoplay, loop, muted | Optional playback features |

5. Embedding YouTube Videos

To embed a YouTube video, use the iframe tag:

Steps:

1. Go to the YouTube video.
2. Click on Share → Embed.
3. Copy the <iframe> code and paste it into your HTML.

Example:

```
<iframe width="560" height="315"  
src="https://www.youtube.com/embed/VIDEO_ID"  
title="YouTube video player" frameborder="0"  
allow="accelerometer; autoplay; clipboard-write; encrypted-media gyroscope;  
picture-in-picture"  
allowfullscreen>  
</iframe>
```

Summary Table

| Feature | Tag | Example |
|---------|----------|----------------------------------|
| Image | | |
| Video | <video> | <video src="movie.mp4" controls> |
| Audio | <audio> | <audio src="song.mp3" controls> |
| YouTube | <iframe> | <iframe src="..."></iframe> |

Examples:

```
<html>
<head>
    <title>Module 4: Images and Multimedia</title>
</head>
<body>

    <h1> Images and Multimedia</h1>

    <!-- Image Section -->
    <h2>1. Inserting an Image</h2>
    

    <hr>

    <!-- Video Section -->
    <h2>2. Embedded Video</h2>
    <video width="400" height="300" controls>
        <source src="sample-video.mp4" type="video/mp4">
        Your browser does not support the video tag.
    </video>

    <hr>
```

```
<!-- Audio Section -->

<h2>3. Embedded Audio</h2>

<audio controls>

  <source src="sample-audio.mp3" type="audio/mpeg">
  Your browser does not support the audio element.

</audio>

<hr>

<!-- YouTube Video Section -->

<h2>4. Embedded YouTube Video</h2>

<iframe width="560" height="315"
  src="https://www.youtube.com/embed/dQw4w9WgXcQ"
  title="YouTube video player" frameborder="0"
  allow="accelerometer; autoplay; clipboard-write; encrypted-
media; gyroscope; picture-in-picture"
  allowfullscreen>

</iframe>

</body>

</html>
```

Assignments – Images & Multimedia

Q1. Insert an Image

Create a simple HTML page with a heading “My Favorite Picture” and insert any image using the `` tag.
Use `src`, `alt`, `width`, and `height` attributes.

Q2. Embed a Video

Create a webpage that shows a short video using the `<video>` tag.
Use the `controls` attribute so users can play/pause it.

Q3. Embed an Audio Clip

Design a page titled “My Favorite Song” and embed an audio file using the `<audio>` tag.
Make sure it has play/pause controls.

Q4. Embed a YouTube Video

Create a webpage that includes a YouTube video (any of your choice) using the `<iframe>` tag.

Q5. Multimedia Profile Page

Create a simple “My Profile” webpage that includes:

- A profile image (``)
- A short video (`<video>`)
- A favorite music clip (`<audio>`)

Image Mapping

Definition

Image mapping allows you to define **clickable areas** (hotspots) on an image that link to different URLs or actions using HTML.

Basic Syntax

```

```

```
<map name="mapname">
```

```
    <area shape="rect" coords="x1, y1, x2, y2" href="link1.html"  
    alt="Rectangle Area">
```

```
    <area shape="circle" coords="x, y, radius" href="link2.html"  
    alt="Circle Area">
```

```
    <area shape="poly" coords="x1, y1, x2, y2, x3, y3" href="link3.html"  
    alt="Polygon Area">
```

```
</map>
```

Tags and Attributes

| <u>Tag/Attribute</u> | <u>Description</u> |
|----------------------|--|
| | Displays the image. |
| usemap="#name" | Connects image to a map. |
| <map name=""> | Container for <area> tags. |
| <area> | Defines a clickable region on the image. |
| shape | Shape of the area: rect, circle, or poly. |
| coords | Coordinates for the area shape. |
| href | Destination URL when the area is clicked. |
| alt | Text shown if image is not loaded (accessibility). |

Shapes and Coordinates Format

| <u>Shape</u> | <u>Format for coords</u> |
|--------------|---|
| rect | x1, y1, x2, y2 (top-left and bottom-right points) |
| circle | x, y, radius (center and radius) |
| poly | x1, y1, x2, y2, ... (multiple points) |

How to Find Coordinates

- Website: <https://www.image-map.net>
- Steps:
 1. Upload image
 2. Draw clickable shapes
 3. Copy the generated <area> tags with coordinates

Example:

```
<html>

<body>

<!-- Image Map Generated by http://www.image-map.net/ -->

<map name="image-map">
  <area target="_self" alt="imagemapping" title="imagemapping"
    href="imagemapping.html" coords="1,5,196,253" shape="rect">
</map>

<!-- Image Map Generated by http://www.image-map.net/ -->


<map name="image-map">
  <area target="" alt="b" title="b" href="logo2.png" coords="113,164,199"
    shape="circle">
</map>
</body>
```

</html>

Assignments on Image Mapping

1. Basic Rectangle Mapping

Q1. Create an HTML page with an image of your choice and make a **rectangle area clickable** using the `<map>` and `<area>` tags. Link it to <https://www.google.com>.

2. Circle Shape Area

Q2. Insert an image and define a **circular clickable area** using `shape="circle"` that redirects the user to <https://www.wikipedia.org>.

3. Multiple Areas

Q3. Create a webpage where a single image has **three clickable areas**:

- One rectangle → goes to <https://www.amazon.com>
- One circle → goes to <https://www.facebook.com>
- One polygon → goes to <https://www.youtube.com>

Q4. Create an HTML image map where clicking on different parts of a country flag image opens pages about different states or regions (you can use rectangles to represent the areas).

Q5. Design an image map for a **computer or mobile layout** image where clicking on the **screen, keyboard, and mouse** leads to different URLs. Use different shapes (rect, circle, poly) for each part.