

Exercise 3. HTML 5 and Cascading Style Sheets, Types of CSS

a. Write a HTML program, that makes use of <article>, <aside>, <figure>, <figcaption>, <footer>, <header>, <main>, <nav>, <section>, <div>, tags.

1. <article>

Purpose:

Represents a **self-contained** piece of content that can stand alone and be independently distributed.

Examples: Blog post, news article, forum post.

```
html

<article>
  <h2>My Travel Experience</h2>
  <p>I visited Paris last summer. It was amazing!</p>
</article>
```

2. <aside>

Purpose:

Contains **indirectly related** content, often placed as a sidebar.

Examples: Related links, advertisements, author bio.

Example:

```
html

<aside>
  <h3>About the Author</h3>
  <p>John is a travel blogger from New York.</p>
</aside>
```

3. <figure>

Purpose:

Groups **media content** (image, diagram, code snippet) with its caption.

Example:

```
<figure>
  
  <figcaption>Snowy mountains in Switzerland</figcaption>
</figure>
```

4. <footer>

Purpose:

Represents a **footer** for a section or whole page.
Can contain: copyright, contact info, related links.

Example:

```
<footer>
  <p>&copy; 2025 My Website</p>
</footer>
```

5. <header>

Purpose:

Represents an **introductory content** or heading for a section/page.
Often contains: logo, title, navigation.

```
<header>
  <h1>My Blog</h1>
  <p>Sharing my thoughts and stories</p>
</header>
```

6. <main>

Purpose:

Represents the **main content area** unique to the page.

There should be only **one** <main> per page.

```
<main>
  <article>...</article>
</main>
```

7. <nav>

Purpose:

Contains **navigation links**.

Examples: menus, table of contents, site maps.

```
<nav>
  <a href="#">Home</a> |
  <a href="#">About</a> |
  <a href="#">Contact</a>
</nav>
```

8. <section>

Purpose:

Groups **related content** within a document.

Should have a heading.

```
<section>
  <h2>Services</h2>
  <p>We provide web design and development services.</p>
</section>
```

9.<div>

Purpose:

A **generic container** for grouping content when no semantic element fits. Usually used for styling or scripting.

Example:

```
<div class="container">
  <p>This content is inside a div.</p>
</div>
```

10.

Purpose:

An **inline container** used to style or manipulate part of text.

Example:

```
<p>This is <span style="color:red;">important</span> text.</p>
```

- <header> for page and article headers
- <nav> for navigation
- <main> as main content container
- <article> for a standalone content block
- <section> for grouping article content
- <figure> & <figcaption> for an image and caption
- <aside> for side info
- <div> could be added for generic grouping if needed
- for inline text styling or metadata
- <footer> for both article and page footers

Program

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<meta charset="UTF-8">
<title>Semantic HTML Example</title>
</head>
<body>
<header>
  <h1>My Simple Website</h1>
  <nav>
    <a href="home.html">Home</a> |
    <a href="about.html">About</a> |
    <a href="contact.html">Contact</a>
  </nav>
</header>

<main>
  <article>
    <header>
      <h2>Article Title</h2>
      <span>Posted on: August 11, 2025</span>
    </header>

    <section>
      <p>This is the main content of the article. HTML5 semantic tags help structure a
webpage.</p>
    </section>

    <figure>
      
      <figcaption>Sample image with a caption.</figcaption>
    </figure>
```

```
<footer>

    <span>Developed by student name (Roll No.)</span>

</footer>

</article>


<aside>

    <h3>Related Information</h3>

    <p>This is some additional content related to the RGM College.</p>

</aside>

</main>


<footer>

    <p>&copy; 2025 My Simple Website</p>

</footer>

</body>

</html>
```

b. Write a HTML program, to embed audio and video into HTML web page.

1. <audio> Tag

- **Purpose:** Embeds audio into a web page.
- **Attributes:**
 - `controls` → shows play, pause, and volume buttons.
 - `autoplay` → starts playing automatically (often blocked until user interaction).
 - `loop` → restarts audio after it finishes.
 - `muted` → starts with volume muted.
- **Inside <audio>:**
 - `<source>` → specifies audio file location & format.

- `type` attribute → tells the browser the audio format (e.g., `audio/mpeg`, `audio/ogg`).

2. `<video>` Tag

- **Purpose:** Embeds video into a web page.
- **Attributes:**
 - `controls` → play/pause, seek bar, volume.
 - `width` & `height` → size of video.
 - `autoplay`, `loop`, `muted` → similar to `<audio>`.
 - `poster` → image displayed before the video plays.
- **Inside `<video>`:**
 - `<source>` → video file + format (`video/mp4`, `video/webm`).

Why Multiple `<source>` Tags?

Different browsers support different media formats:

- **MP3 / MP4** → widely supported (Chrome, Edge, Safari).
- **Ogg / WebM** → supported in Firefox, some open-source browsers.
Including multiple ensures **maximum compatibility**.

Program

```
<!DOCTYPE html>

<html>

<head>

  <meta charset="UTF-8">

  <title>Embed Audio and Video</title>

</head>

<body>

<h1>Embedding Audio and Video in HTML</h1>

<!-- Audio Example -->

<section>

  <h2>Audio Example</h2>

  <audio controls>
```

```
<source src="sample-audio.mp3" type="audio/mpeg">
```

```
<source src="sample-audio.ogg" type="audio/ogg">
```

Your browser does not support the audio element.

```
</audio>
```

```
</section>
```

```
<!-- Video Example -->
```

```
<section>
```

```
<h2>Video Example</h2>
```

```
<video controls width="480" height="270">
```

```
<source src="sample-video.mp4" type="video/mp4">
```

```
<source src="sample-video.webm" type="video/webm">
```

Your browser does not support the video element.

```
</video>
```

```
</section>
```

```
</body>
```

```
</html>
```