Lab 09: Introduction to HTML and Essential HTML Elements:

Subject: Application of Information & Communication Technologies

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Introduction to HTML:

Purpose of HTML in Web Development:

HTML, which stands for HyperText Markup Language, is the standard markup language used to create web pages. Its primary purpose is to structure content on the web, providing a way to describe the elements on a page such as headings, paragraphs, links, images, and more. HTML works in conjunction with other web technologies like CSS (Cascading Style Sheets) and JavaScript to create a visually appealing and interactive websites.

The file extension for an HTML document is typically ".html".

Basic Structure of an HTML Document:

```
untitled
1   <!DOCTYPE html>
2   <head>
3       <title>My First HTML Page</title>
4   </head>
5   <body>
6       <h1>Hello, HTML!</h1>
7       <p>This is a simple HTML document.</p>
8   </body>
9   </html>
```

Explanation:

<!DOCTYPE html>: Declares the HTML version.

\<html\>: The root element of an HTML page.

\<head\>: Contains meta-information about the document.

\<title\>: Sets the title of the HTML document.

\<body\>: Contains the content of the document.

Web Browsers

The purpose of a web browser (Chrome, Edge, Firefox, Safari) is to read HTML documents and display them correctly.

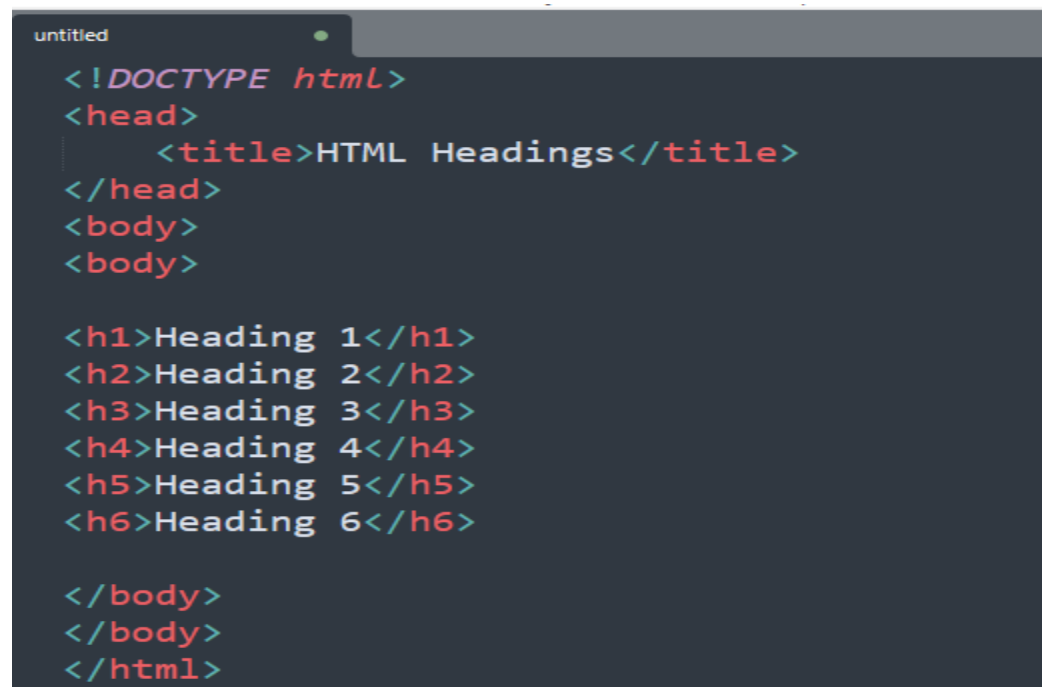A browser does not display the HTML tags, but uses them to determine how to display the document

Using Text Editors and Integrated Development Environments (IDEs):

Text editors like Visual Studio Code, Sublime Text, or Notpad are commonly used for HTML development.

Essential HTML Elements

HTML Headings

- HTML headings are titles or subtitles that you want to display on a webpage.
- HTML headings are defined with the \<h1\> to \<h6\> tags.
- \<h1\> defines the most important heading. \<h6\> defines the least important heading.

```
untitled                    ●

<!DOCTYPE html>
<head>
    <title>HTML Headings</title>
</head>
<body>
<body>

<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<h4>Heading 4</h4>
<h5>Heading 5</h5>
<h6>Heading 6</h6>

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

HTML Paragraphs

- The HTML <p> element defines a paragraph.
- A paragraph always starts on a new line, and browsers automatically add some white space (a margin) before and after a paragraph.

```
untitled                    ●
1   <!DOCTYPE html>
2   <head>
3       <title>HTML Headings</title>
4   </head>
5   <body>
6   <body>
7
8   <p>
9   This paragraph
0   contains a lot of lines
1   in the source code,
2   but the browser
3   ignores it.
4   </p>
5
6   <p>
7   This paragraph
8   contains           a lot of spaces
9   in the source           code,
0   but the          browser
1   ignores it.
2   </p>
3
4   </body>
5   </body>
6   </html>
```

HTML Line Breaks

- The HTML <br> element defines a line break.
- Use <br> if you want a line break (a new line) without starting a new paragraph:

```
untitled                    ●

1   <!DOCTYPE html>
2   <head>
3       <title>HTML Headings</title>
4   </head>
5   <body>
6   <body>
7
8   <p>This is<br>a paragraph<br>with line breaks.</p>
9
0   </body>
1   </body>
2   </html>
```

HTML Formatting Elements

Formatting elements were designed to display special types of text:

- <b> - Bold text
- <i> - Italic text
- <mark> - Marked text
- <u> - underline text

```
untitled                        ●
1   <!DOCTYPE html>
2   <head>
3       <title> HTML Formatting Elements </title>
4   </head>
5   <body>
6   <body>
7
8   <body>
9       <p>This is <b>bold</b>, <i>italic</i>, <mark>highlighted</mark>, and <u>underlined</u> text.</p>
0   </body>
1
2   </body>
3   </body>
4   </html>
5
```

HTML Lists

HTML lists allow web developers to group a set of related items in lists.

An unordered HTML list:

- Item
- Item
- Item
- Item

An ordered HTML list:

1. First item
2. Second item
3. Third item
4. Fourth item

Unordered HTML List

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

The list items will be marked with bullets (small black circles) by default:

  Coffee
  Tea
  Milk

Unordered HTML List - Choose List Item Marker

The CSS list-style-type property is used to define the style of the list item marker. It can have one of the following values:

Value	Description
disc	Sets the list item marker to a bullet (default)
circle	Sets the list item marker to a circle
square	Sets the list item marker to a square
none	The list items will not be marked

```html
<ul style="list-style-type:disc;">
 <li>Coffee</li>
 <li>Tea</li>
 <li>Milk</li>
</ul>
```

```html
<ul style="list-style-type:circle;">
 <li>Coffee</li>
 <li>Tea</li>
 <li>Milk</li>
</ul>
```

```html
<ul style="list-style-type:square;">
 <li>Coffee</li>
 <li>Tea</li>
 <li>Milk</li>
</ul>
```

```html
<ul style="list-style-type:none;">
 <li>Coffee</li>
 <li>Tea</li>
 <li>Milk</li>
</ul>
```

Nested HTML Lists

Lists can be nested (list inside list):

```html
<ul>
 <li>Coffee</li>
 <li>Tea
  <ul>
   <li>Black tea</li>
   <li>Green tea</li>
  </ul>
 </li>
 <li>Milk</li>
</ul>
```

Ordered HTML List

An ordered list starts with the <ol> tag. Each list item starts with the <li> tag.

The list items will be marked with numbers by default:

 Coffee
 Tea
 Milk

Ordered HTML List - The Type Attribute

The type attribute of the <ol> tag, defines the type of the list item marker:

Type	Description
type="1"	The list items will be numbered with numbers (default)
type="A"	The list items will be numbered with uppercase letters
type="a"	The list items will be numbered with lowercase letters
type="I"	The list items will be numbered with uppercase roman numbers
type="i"	The list items will be numbered with lowercase roman numbers

<ol type="1"> - Coffee - Tea - Milk 	<ol type="A"> - Coffee - Tea - Milk
<ol type="a"> - Coffee - Tea - Milk 	<ol type="I"> - Coffee - Tea - Milk

By default, an ordered list will start counting from 1. If you want to start counting from a specified number, you can use the start attribute

```
<ol start="50">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```
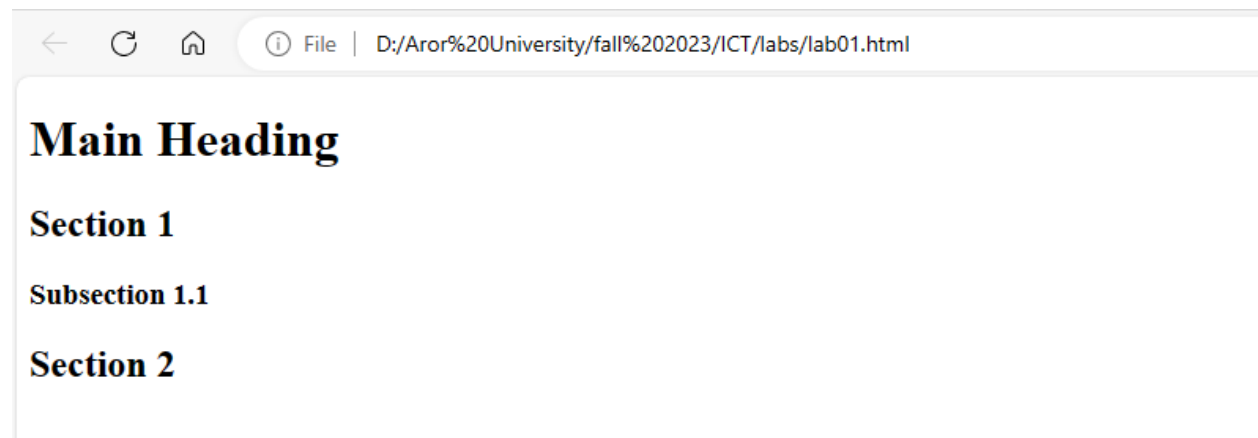
Lists can be nested (list inside list):

```
<ol>
  <li>Coffee</li>
  <li>Tea
    <ol>
      <li>Black tea</li>
      <li>Green tea</li>
    </ol>
  </li>
  <li>Milk</li>
</ol>
```
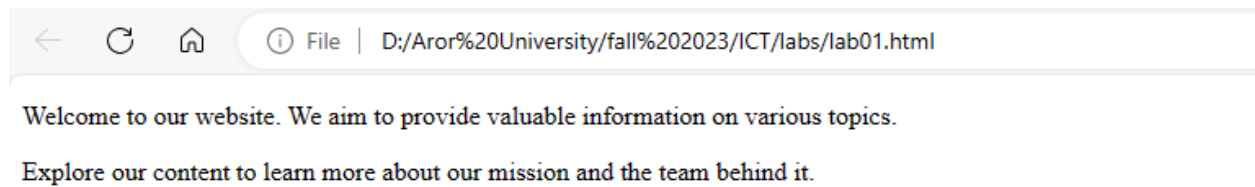
Task 1: Create Meaningful Headings

Create an HTML document with meaningful headings to structure content. Use at least three levels of headings (<h1>, <h2>, <h3>) to represent different sections.
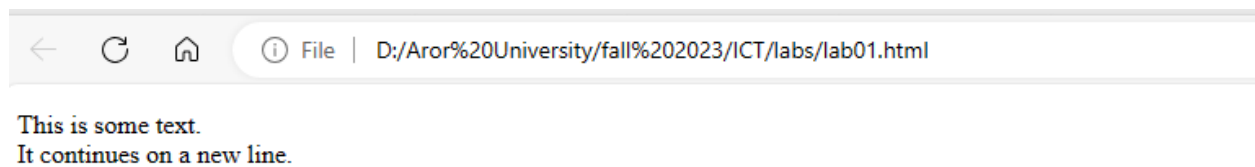

Task 2: Organize Text with Paragraphs

Create a webpage that organizes text content using paragraphs (<p>). Write a short paragraph introducing a topic and another paragraph providing additional details.

Welcome to our website. We aim to provide valuable information on various topics.

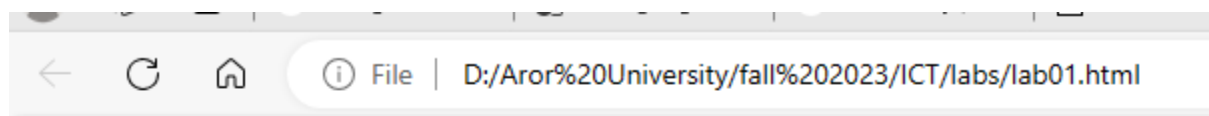Explore our content to learn more about our mission and the team behind it.

Task 3: Use Line Breaks

Create a paragraph with line breaks (<br>) to break text onto new lines. Use line breaks to separate different ideas or elements within the same paragraph.

This is some text.
It continues on a new line.

Task 4: Structure Content with Lists

Use unordered (<ul>) and ordered (<ol>) lists along with list items (<li>) to structure content. Create a list of your favorite items using both types of lists.

My Favorite Things

Unordered List:

- Books
- Music
- Traveling

Ordered List:

1. Coffee
2. Learning
3. Sunsets

Task 5: Nested Mix of Lists

Create an HTML document that includes a nested mix of ordered and unordered lists. List your favorite things and, within the "Traveling" category, include an ordered list of different types of travel destinations.

My Favorite Things

Nested mix List:

- Books
- Music
- Traveling
    1. Deserts
    2. Mountains
    3. City exploration
- Coffee
- Learning
- Sunsets