

# The Hypertext Markup Language (HTML)

## Basics



# HTML

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- HTML is a markup language that specifies the structure and content of documents (web pages) that are displayed in web browsers.
- Web pages are stored on web servers and are requested and displayed by web browsers
- When a page is viewed by a web browser, it shows text, images, lists, headings, tables, forms, hyperlinks to other online documents, etc.
- HTML5 is the latest version of HTML.

# Structure of an HTML Document

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- Every document starts with a DOCTYPE, followed by an HTML section that contains a head and body.
- A Simple HTML Document:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>

    <h1>My First Heading</h1>
    <p>My first paragraph.</p>

  </body>
</html>
```

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- An HTML file is a text file with filename extension: .htm or .html  
[filename.html](#)
  - An HTML file can be created using Simple text editors like notepad, TextPad, Notepad++, etc
  - Also it can be created using IDE → [Visual Studio Code](#), [Sublime](#), [NetBeans](#), [Atom](#), and others.

# Example Explained

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- The `<!DOCTYPE html>` declaration defines that this document is an HTML 5 document.
  - '*DOCTYPE*' keyword is *not* case sensitive. So, `<!doctype html>` or `<!DOCTYPE html>`, both will do.
- The `<html>` element is the root element of an HTML page
- The `<head>` element contains meta information about the HTML page
- The `<title>` element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)
- The `<body>` element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.
- The `<h1>` element defines a large heading
- The `<p>` element defines a paragraph

# HTML Element

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- An HTML element is defined by a start tag, some content, and an end tag:

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

- The HTML element is everything from the start tag to the end tag:

```
<h1>My First Heading</h1>
```

```
<p>My first paragraph.</p>
```

**Note:** Some HTML elements have no content (like the `<br>` element).  
These elements are called empty elements. Empty elements do not have an end tag!

# HTML Tags

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- Html tags are not case sensitive, e.g. <b> and <B> are equivalent
- There are two types of tags
  - Container tags: come in pairs: a beginning tag like <title> and a closing tag like </title >
- The text between the start and end tags is the **element content**
  - Empty tags: do not contain any text and are not permitted to have end tags

Examples: img, br, input

# Basic HTML Tags

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- Headings

- Headings are defined with the <h1> to <h6> tags

- Paragraphs

- Paragraphs are defined with the <p> tag
  - HTML automatically adds an extra blank line before and after a paragraph

- Line Breaks

- The <br> tag is used when you want to end a line.
  - <!-- This is a comment -->

# Headings

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- There are six headings with different font sizes to specify the relative importance of information
- Heading element `<h1> ....</h1>` is displayed in the largest font and is considered to be the most significant
- Other headings `h2, h3, ..., h6.`

`<h1>Heading Level 1</h1>`

**Heading Level 1**

`<h2>Heading Level 2</h2>`

**Heading Level 2**

`<h3>Heading Level 3</h3>`

**Heading Level 3**

`<h4>Heading Level 4</h4>`

**Heading Level 4**

`<h5>Heading Level 5</h5>`

**Heading Level 5**

`<h6>Heading Level 6</h6>`

**Heading Level 6**

# Paragraphs

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- The HTML <p> element defines a paragraph.
- A paragraph always starts on a new line, and is usually a block of text.
- Example

```
<p>This is a paragraph.</p>
```

```
<p>This is another paragraph.</p>
```

- With HTML, you cannot change the display by adding extra spaces or extra lines in your HTML code.
- The browser will automatically remove any extra spaces and lines when the page is displayed:

```
<p>This is a paragraph.
```

This is another paragraph.

```
</p>
```

# Horizontal Rules

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- The `<hr>` tag defines a thematic break in an HTML page, and is most often displayed as a horizontal rule.

The `<hr>` element is used to separate content (or define a change) in an HTML page:

- Example

```
<h1>This is heading 1</h1>
<p>This is some text.</p>
<hr>
<h2>This is heading 2</h2>
<p>This is some other text.</p>
<hr>
```

- The `<hr>` tag is an empty tag, which means that it has no end tag.

# Line Breaks

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

`<p>This is<br>a paragraph<br>with line breaks. <p>`

# Images

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- Images can improve the design and the appearance of a web page.
- The <IMG> tag is used to embed an image into a Web document:

```
<IMG src ="URL" alt ="Alternate Text">
```

- The URL is the location of the image file. The ALT attribute specifies text to be displayed if the browser does not display the image.
- Example

```

```



# Images

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- Image Size - Width and Height
- **style** attribute to specify the width and height of an image.

```

```

- Alternatively, you can use the **width** and **height** attributes:

```

```

# Linking

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- HTML links are hyperlinks.
- You can click on a link and jump to another page.
- When you move the mouse over a link, the mouse arrow will turn into a little hand.
- HTML **links** are defined with the `<a>` tag.
- Example

```
<a href="https://sabu.edu.ly/">Visit Sabtatha University</a>
```

```
<a href="#web">Web Technology</a>
```

# Using Images as Hyperlinks

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- The <img> and the <a> tags together is the most common way of adding a clickable image link in HTML.
- Example

```
<a href = "links.html">  
    <img src = " images/img.jpg " width = "65" height = "50"  
        alt = "Links">  
</a>
```

# Formatting tags in HTML

- Formatting tags allow text to be stylized in HTML5 without the need for CSS.
- There are a number of HTML5 formatting tags, and the most popular ones include:
  1. **<b>** - used to make text bold
  2. **<i>** - used to italicize text
  3. **<u>** - used to underline text
  4. **<mark>** - used to highlight text
  5. **<strong>** - used to mark text as important

# Formatting tags in HTML

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6. **<sub>** - used to defines subscript text. Subscript text appears half a character below the normal line.
7. **<sup>** element defines superscript text. Superscript text appears half a character above the normal line

## □ Example

```
<p><b>This text is bold</b></p>
```

```
<p><i>This text is italic</i></p>
```

```
<p>This is<sub> subscript</sub> and <sup>superscript</sup></p>
```

This text is bold

This text is italic

This is <sub>subscript</sub> and <sup>superscript</sup>