Intro to HTML

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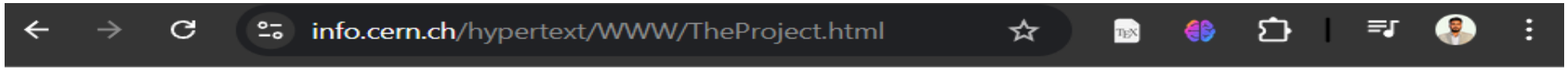
Tim Berners-Lee

Tim Berners-Lee, a physicist at the CERN research institute in Switzerland invented HTML in **1991**. This first version consisted of **18 HTML tages**. Now, there are currently about **140 HTML tags**, although not all of them are supported by modern browsers. Learn more about **Tim Berners-Lee** here:



World Wide Web

The WorldWideWeb (W3) is a wide-area hypermedia information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an executive summary of the project, Mailing lists , Policy , November's W3 news , Frequently Asked Questions .

What's out there?
Pointers to the world's online information, subjects , W3 servers, etc.

Help
on the browser you are using

Software Products
A list of W3 project components and their current state. (e.g. Line Mode ,X11 Viola , NeXTStep , Servers , Tools , Mail robot , Library)

Technical
Details of protocols, formats, program internals etc

Bibliography
Paper documentation on W3 and references.

People
A list of some people involved in the project.

History
A summary of the history of the project.

How can I help ?
If you would like to support the web..

Getting code
Getting the code by anonymous FTP , etc.

World Wide Web

The **World Wide Web (WWW)** is a **system of interlinked web pages and resources** that are accessed over the **Internet** using a web browser. It allows users to **view, navigate, and share information** in the form of text, images, audio, video, and interactive content by clicking **hyperlinks**.

The Web works using three core technologies:

- **HTML (HyperText Markup Language)** – structures web pages
- **HTTP (HyperText Transfer Protocol)** – transfers web pages
- **URL (Uniform Resource Locator)** – identifies the address of web pages

Internet vs World Wide Web

Key aspects	Internet	WWW
Definition	A global network of interconnected computers and networks	A system of interlinked web pages and resources running on the Internet
Nature	Infrastructure (hardware + network protocols)	Information system (content + hyperlinks)
Origin	1960s–1970s, ARPANET project; key contributors **Vinton Cerf** and **Bob Kahn,** United States (US Department of Defense)	1989–1991, Tim Berners-Lee, CERN, Switzerland
Original Purpose	Enable reliable computer-to-computer communication	Enable easy document sharing using hyperlinks
Core Technologies	TCP/IP, routers, physical networks	HTML, HTTP, URLs
Dependency	Exists independently	Depends on the Internet to function
Services Provided	Email, FTP, VoIP, Web, Remote login	Websites, web pages, hyperlinks
Access Method	Network connections and protocols	Web browsers (Chrome, Firefox, Edge)
Examples	Email systems, file transfer, online gaming	Google, Wikipedia, YouTube

What is HTML?

- HTML, otherwise known as **Hyper Text Markup Language**, is the language used to create Web pages.
- Using HTML, you can create a Web page with text, graphics, sound, and video.
- HTML file = text file containing markup tags such <p>
- Tags tell Web browser how to display a page
- Can have *.html file extension

Tags vs. Elements

- HTML specifies a set of *tags* that identify structure and content type
  - tags are enclosed in < > angle brackets
    - <img src="image.gif"> specifies an image
  - most tags come in pairs, marking a beginning and ending
    - <title> and </title> enclose the title of a page
    - HTML Tags not case-sensitive
    - Lower-case tags recommended
    - HTML Tags may contain attributes
- Can nest tags
- Tags cannot overlap

Tags vs. Elements

An HTML *element* is an object enclosed by a pair of tags

- <title>My Home Page</title> is a TITLE element
- This text appears bold. is a **BOLD** element
- Part of this text is bold.
  - is a PARAGRAPH element that contains a BOLD element

HTML document is a collection of elements (text/media with context)

Structure

- an HTML document has two main structural elements
  - HEAD contains setup information for the browser & the Web page
    - e.g., the title for the browser window, style definitions, JavaScript code, …
  - BODY contains the actual content to be displayed in the Web page

Structure of a Web Page

```
<!DOCTYPE html>
<html>
<head>
<title> Example </title>
</head>
<body>
      This is where you would include the text and images on your Web page.

</body>
</html>
```

!Doctype

The <!DOCTYPE> Declaration

The <!DOCTYPE> declaration tag is used by the web browser to understand the version of the HTML used in the document. Current version of HTML is 5 and it makes use of the following declaration −

<!DOCTYPE html>

HTML Tags

Sr.No	Tag & Description
1	**<!DOCTYPE...>**This tag defines the document type and HTML version.
2	**<html>**This tag encloses the complete HTML document and mainly comprises of document header which is represented by <head>...</head> and document body which is represented by <body>...</body> tags.
3	**<head>**This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
4	**<title>**The <title> tag is used inside the <head> tag to mention the document title.
5	**<body>**This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
6	**<h1>**This tag represents the heading.
7	**<p>**This tag represents a paragraph.

HTML Attributes

- All HTML elements can have **attributes**
- Attributes provide **additional information** about an element
- Attributes are always specified in **the start tag**
- Attributes usually come in name/value pairs like: **name="value"**

HTML Images

```
<!DOCTYPE html>
<html>
<body>

<h2>HTML Images</h2>
<p>HTML images are defined with the img tag:</p>

<img src="DSC_0546.JPG" alt="Manikganj" width="800" height="400">

</body>
</html>
```

Img Attributes

The src Attribute

- The filename of the image source is specified in the src attribute.

The width and height Attributes

- HTML images also have width and height attributes, which specifies the width and height of the image:

The alt Attribute

- The alt attribute specifies an alternative text to be used, if an image cannot be displayed.

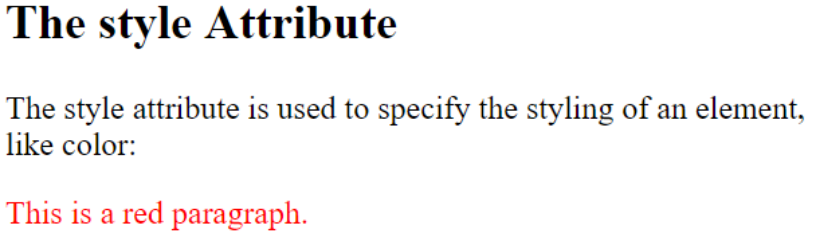
The href, target Attribute

```
<!DOCTYPE html>
<html>
<body>

<h2>HTML Links</h2>
<p>HTML links are defined with the a tag:</p>
<a href=https://www.youtube.com/@RakibHasan-nq8df
target="_blank" >This is a link</a>
</body>
</html>
```

The style Attribute

The style attribute is used to specify the styling of an element, like color, font, size etc.

```
<!DOCTYPE html>
<html>
<body>

<h2>The style Attribute</h2>
<p>The style attribute is used to specify the
styling of an element, like color:</p>
<p style="color:red">This is a red
paragraph.</p>
</body>
</html>
```

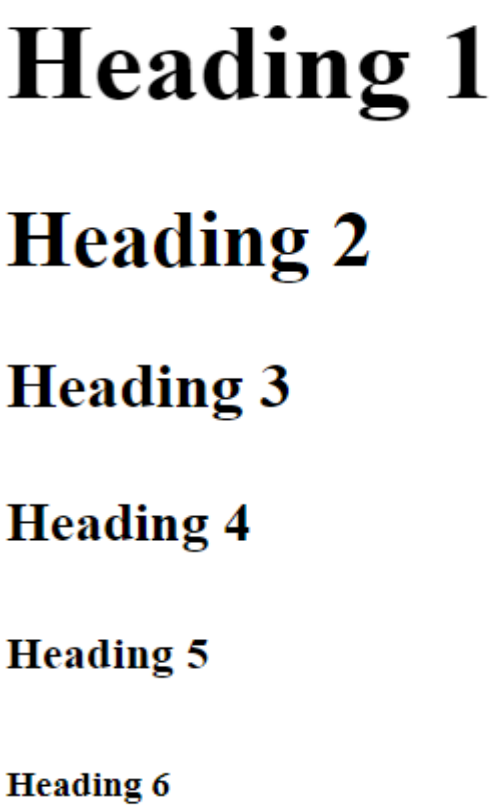


HTML Text Formatting

- HTML formatting tags allow you to change the appearance of text on webpage.
- These tags can be used to make text bold, italicized, underlined, highlighted

HTML Heading

```
<!DOCTYPE html>
<html>
<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>
</html>
```



Paragraphs and Line Breaks

<p> : Defines a paragraph.

 : Inserts a line break within a paragraph.

```
<p>This is a paragraph.</p>
<p>This is a line<br>break example.</p>
```

Text Styling

 : Makes text bold and semantically emphasizes it.

<b> : Makes text bold without semantic emphasis.

 : Italicizes text and provides semantic emphasis.

<i> : Italicizes text without semantic emphasis.

<u> : Underlines text.

```
<p><strong>Bold text</strong>, <b>non-semantic bold</b></p>
<p><em>Italicized text</em>, <i>non-semantic italic</i></p>
<p><u>Underlined text</u></p>
```

Text Size and Highlighting

<small> : Displays smaller text.

<mark> : Highlights text for emphasis.

```
<p><small>Small text example</small></p>
<p><mark>Highlighted text </mark>example</p>
```

Subscript and Superscript

<sub> : Displays subscript text.

<sup> : Displays superscript text.

```
<p>Water formula: H<sub>2</sub>O</p>
<p>Exponent example: x<sup>2</sup></p>
```

Abbreviations

<abbr> : Represents abbreviations.

```
<p>The <abbr title="World Wide Web">WWW</abbr> is essential for
modern
communication.</p>
```

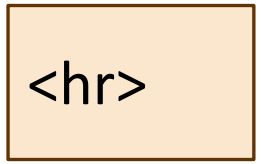
Preformatted Text

<pre> : Maintains spaces and line breaks as written in the code.

```
<pre>
 Line 1
 Line 2
</pre>
```

Horizontal Rule

<hr> : Inserts a horizontal line to indicate a thematic break.



Inserted and Deleted Text

<ins> : Represents inserted text.

<del> : Represents deleted text.

```
<p><ins>Inserted text</ins> yap</p>
<p><del>Deleted text</del></p>
```

Quotations

<q> : Defines a short inline quotation.

<blockquote> : Represents longer quotations, optionally with a citation.

- ‘cite’ It gives credit to the original author or website.

```
<p>Quote: <q>Knowledge is power.</q></p>
<blockquote cite="https://example.com"> A long quotation example goes here.</blockquote>
```

HTML Comments

Comment tags are used to insert comments in the HTML source code.

<!-- Write your comments here -->

Note: Comments are not displayed by the browser, but they can help document your HTML source code.

```
<!DOCTYPE html>
<html>
<body>

<!-- This is a comment -->
<p>This is a paragraph.</p>
<!-- Comments are not displayed in the browser -->

</body>
</html>
```

This is a paragraph.

HTML Lists

```
<!DOCTYPE html>
<html>
<body>

<h2>An Unordered HTML List</h2>

<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>

<h2>An Ordered HTML List</h2>

<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>

</body>
</html>
```

HTML Lists

In an HTML list, we can also set the type of the list items and specify the starting point using the start attribute.

```
 8   <body>
 9       <ol type="1" start="5" reversed>
10           <li>Watch
11               <ul>
12                   <li>Apple</li>
13                   <li>Samsung</li>
14               </ul>
15           </li>
16           <li>Shirt</li>
17           <li>Pant</li>
18       </ol>
19   </body>
```

Output

5. Watch
    - Apple
    - Samsung
4. Shirt
3. Pant

HTML External Page Navigation Using <a> Tag

Create two file under a folder. Let's say new.html, about.html

Under new.html

```
<body>
    <a href="about.html">My page</a>
</body>
```

Output

My page

Under about.html

```
<body>
    <a href="new.html">Home</a>
</body>
```

Home

HTML Internal Page Navigation Using <a> Tag

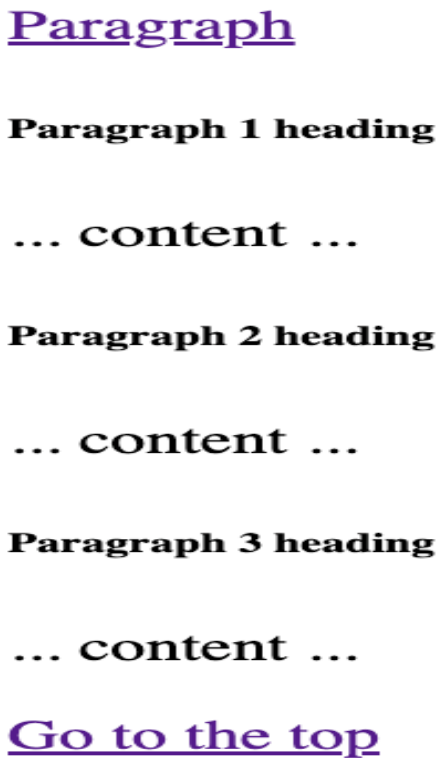
Navigating Within the Same Page

- Use <a href="#idName"> to **jump** to a specific element.
- Add id="idName" to the **target element** (heading, paragraph, etc.).

HTML Internal Page Navigation Using <a> Tag (Cont'd)

```
8   <body>
9       <a href="#karim">Paragraph</a> <!-- Link to Paragraph 3 -->
10
11      <h6 id="head1">Paragraph 1 heading</h6>
12      <p> ... content ... </p>
13
14      <h6>Paragraph 2 heading</h6>
15      <p id="rahim"> ... content ... </p>
16
17      <h6>Paragraph 3 heading</h6>
18      <p id="karim"> ... content ... </p>
19
20      <a href="#head1">Go to the top</a> <!-- Link back to top -->
21  </body>
```

Output



References

https://www.tutorialspoint.com/html/index.htm

https://www.w3schools.com/html/