

# Lecture 1: Web Design

CSCSE11 : Bachelor of Science (I<sup>st</sup> Semester)

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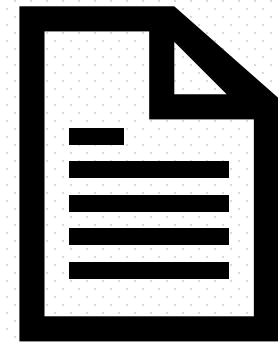
# HTML

Hypertext Markup Language (HTML) is the text markup language currently used on the World Wide Web.

**Markup commands** applied to your Web-based content tell the browser software the structure of the document and, when appropriate, how you want the content to be displayed.

# HTML

An HTML document is simply a ***text file*** that contains the information you want to publish. It also contains embedded instructions, called ***elements***, that indicate how a Web browser should structure or present the document.



mypage.html

# HTML Elements

HTML elements generally consist of a pair of angle bracketed tags surrounding some text.

`<TAG>`

... content

`</TAG>`

The end tag (`</TAG>`) is just like the start tag (`<TAG>`), except that it has a slash (/) in it

# HTML Elements

HTML tags have a well-defined syntax and HTML documents have a formal structure. The World Wide Web Consortium (W3C), at *<http://www.w3.org>*, is the primary organization that attempts to standardize HTML (as well as many other technologies used on the Web).

# HTML

When the browser reads a document that has HTML markup in it, it determines how to render it onscreen by considering the HTML elements embedded within the document.



# The Structure of HTML documents

```
<!DOCTYPE HTML PUBLIC "html version">
<HTML>
<HEAD>
<TITLE>Document Title</TITLE>
...Other supplementary information goes here....
</HEAD>

<BODY>
...Marked-up text goes here....
</BODY>
</HTML>
```

# The Structure of HTML documents



Source:  
[https://www.reddit.com/r/ProgrammerHumor/comments/4umemx/html\\_tattoo/](https://www.reddit.com/r/ProgrammerHumor/comments/4umemx/html_tattoo/)



# The Structure of HTML documents

Regardless of document content, all well-written HTML documents share a common structure.

An HTML document begins with a `<!DOCTYPE>` declaration, indicating the version of HTML used by the document. Following this, the `<HTML>` element encloses the actual document. It contains two primary sections, the head and the body, enclosed by the `<HEAD>` and `<BODY>` elements, respectively.

# The Structure of HTML documents

The head can contain identifying and other supplementary information about the document, or **meta-information**. The head always contains the document's title, enclosed by the <TITLE> element. The body contains the actual document content and the HTML markup used to structure the document.

# HTML Rules and Guidelines

1. HTML documents are structured documents.
2. Element names are not case-sensitive. An element such as `<html>` is equivalent to `<html>` or `<HTML>`. Element case doesn't matter to a browser.
3. Attribute names aren't case-sensitive. Just as `<hr>` is equivalent to `<HR>`, `<HR NOSHADE>` is equivalent to `<HR noshade>` or `<HR NoShade>`.

# HTML Rules and Guidelines

4. Attribute values may be case-sensitive. The value of an attribute may be case-sensitive, especially if it refers to a file. The filename in `<IMG SRC="filename.gif">` may not be the same as the filename in `<IMG SRC="FILENAME.GIF">`.

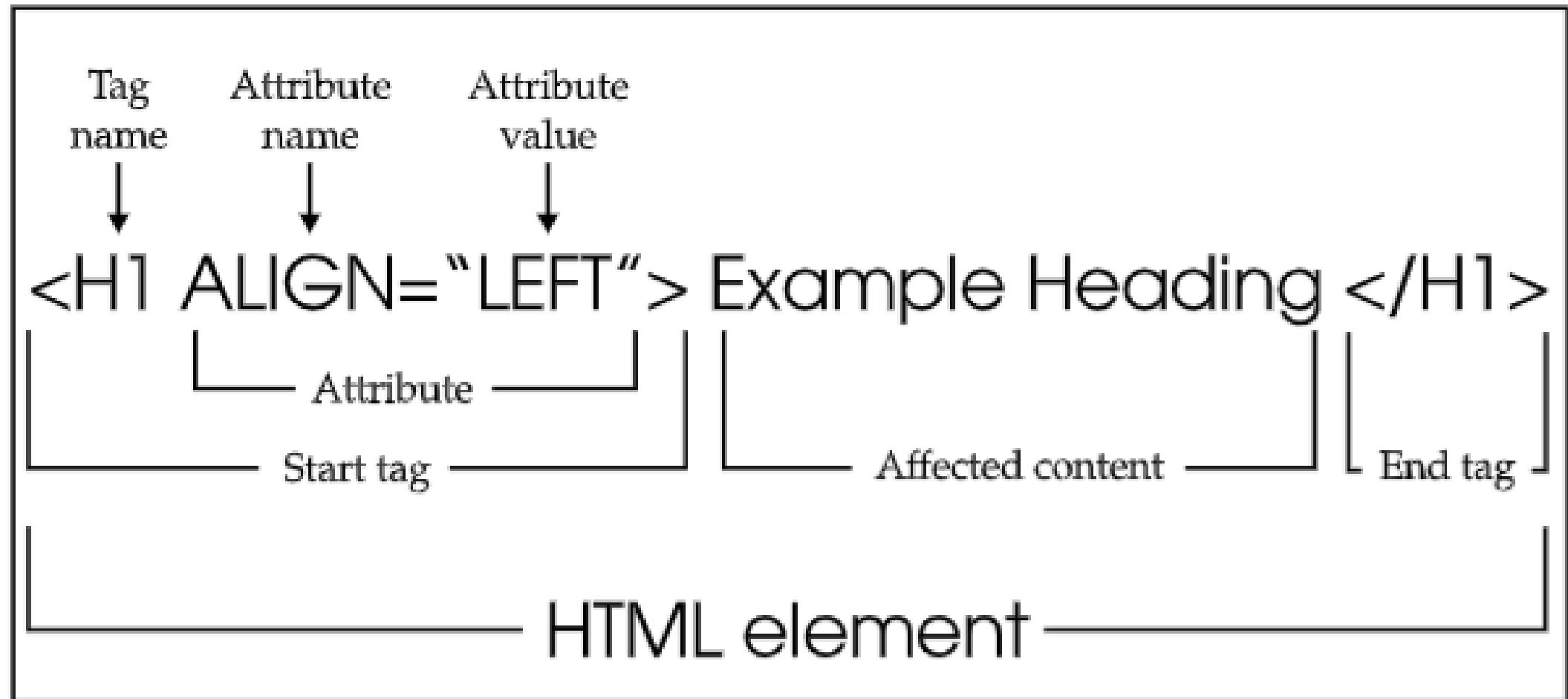
5. Attribute values should be quoted.

# HTML Rules and Guidelines

Note: In common HTML, regardless of whether an attribute is user-defined or can contain only a specified value, it doesn't require quotes unless spaces or special characters occur within the value. For example, the values for the SRC and ALT attributes in the following element contain no spaces and therefore require no quotes:

```
<IMG SRC=dog.gif ALT=Rover>
```

```
<IMG SRC=dog.gif ALT="My dog Rover">
```



<HEAD> ELEMENT

# <HEAD> ELEMENT

The <HEAD> element encloses a document section that contains identification and supplementary information about the document. Browsers don't generally display this information.

## Inside <head> :

The <LINK> element specifies a special relationship between the current document and another document.

The <META> element uses name/value pairs to provide meta-information about a document.

The <META> element often provides descriptive information targeted by Web search engines.

The <SCRIPT> element allows programs written in a scripting language to be directly embedded in a Web page.

The <STYLE> element encloses style specifications covering fonts, colors, positioning, and other aspects of content presentation. These styles can be associated with document elements.



# <HEAD> ELEMENT

## <LINK> :

The HTML **<link>** tag is used to define a relationship between the current document and an external resource. It is most commonly used to link to external style sheets (CSS), but it has many other important uses related to performance, SEO, and site icons.

It is an **empty (void) element**, meaning it contains attributes only and has no closing tag (e.g., it is written as `<link />` or just `<link>`). It must be placed within the `<head>` section of the HTML document.

# <HEAD> ELEMENT

## <LINK> : Key Attributes

1. **rel (Relationship)**: Specifies the relationship between the current document and the linked resource. Common values include stylesheet, icon, preload, and canonical.
2. **href (Hypertext reference)**: Specifies the URL of the external resource.
3. **type**: Specifies the media type of the linked resource (text/css, image/png)

## Example

```
<link rel="stylesheet" href="styles.css">
```

```
<link rel="stylesheet" href="print.css" media="print">
```

```
<link rel="icon" href="myicon.ico" type="image/x-icon">
```

```
<link rel="icon" type="image/png" sizes="32x32" href="icon.png">
```

# <HEAD> ELEMENT

## <META> :

A <META> element that uses the **NAME** attribute is the easiest to understand. The **NAME** attribute specifies the type of information. The **CONTENT** attribute is set to the content of the meta-information itself. The <META> element often provides descriptive information targeted by Web search engines.

<HTML>

<HEAD>

<TITLE>Big Company, Inc. Home Page</TITLE>

<META NAME="AUTHOR" CONTENT="Big Company, Inc.">

<META NAME="DESCRIPTION" CONTENT="#1 vendor of Green Gadgets.">

<META NAME="KEYWORDS" CONTENT="Big, Company, Gadgets, Green, San Diego">

</HEAD>

<BODY>

...

</BODY>

</HTML>

# <HEAD> ELEMENT

## <META> : Character encoding

This declares the character set your document is written in, allowing the browser to display text, symbols, and emojis correctly.

**Rule:** This should be the **very first element** inside your <head> tag to prevent the browser from having to re-parse the document.

```
<head>
```

```
    <meta charset="UTF-8">
```

```
</head>
```

# <HEAD> ELEMENT

## **<META> : viewport**

This tag is essential for responsive design and controls how your website appears on mobile devices. Without it, mobile browsers will assume your site is a desktop site and "zoom out," making it unreadable.

```
<head>
```

```
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
</head>
```

# <HEAD> ELEMENT

## <SCRIPT> :

The <script> tag is used to embed or refer to executable code within an HTML document. The vast majority of the time, this code is JavaScript, which is the language used to add interactivity, manipulation, and functionality to web pages.

You can use the <script> tag in two primary ways:

**Inline Script:** Writing your JavaScript code directly inside the HTML file.

**External Script:** Linking to a separate .js file that contains your code. This is the most common and recommended method for any code that is more than a couple of lines long.

# <HEAD> ELEMENT

## <SCRIPT> :

```
<head>
```

```
    <title>My Page</title>
```

```
</head>
```

```
<body>
```

```
    <h2>My Web Page</h2>
```

```
    <p id="demo">This is some text.</p>
```

```
    <script src="js/main.js"></script>
```

```
</body>
```



</THANK YOU>