

Overview

HyperText Markup Language, or **HTML**, is the language that describes the contents of web pages. It's not a programming language (it doesn't contain loops, if statements, etc.), but it does allow a web designer to decide how a web page is laid out. When a user requests a web page, the web server will send the contents of that page in HTML. The web browser interprets this HTML and displays the web page to the user.

Key Terms

- HTML
- element
- tag
- DOM
- attribute

HTML Basics

To the right is a basic, sample HTML web page. The first line clarifies that the document is an HTML document (specifically, an HTML5 document). After that, HTML code is organized as a series of nested **elements**. Each element begins and ends with a **tag** that indicates what type of element it is. Anything between those tags is the contents of the element. In our example, the outermost element is the `html` element, since it is enclosed with `<html>` at the start, and `</html>` at the very end. Everything in between those two tags is part of the `html` element.

```
<!DOCTYPE html>

<html>
  <head>
    <title>hello, world</title>
  </head>
  <body>
    Hello!
  </body>
</html>
```

In general, opening tags will take the form `<tagname>` and closing tags will take the form `</tagname>`. Inside of our `html` element are two other elements: **head** and **body**. The **head** element contains information about the webpage that isn't in the body of the web page itself. For instance, the head element here contains a **title** element, which sets the title of the webpage to **hello, world**. Inside of the body element, which defines what's actually in the main content area of the webpage, is just the word **Hello!**

You can think of the structure of an HTML document as a tree-like hierarchy. The `html` element is at the root of the tree. Branching off of it are the head and body tags. Branching off of the **head** tag is the **title** tag, and so forth. This model of viewing an HTML document as a tree is known as the Document Object Model, or **DOM**.

Common Tags

HTML offers many tags that can be used to format a web page. The ones in our example - `html`, `head`, `title`, and `body` - are very common and will likely appear in every web page we write. Other tags may appear in particular situations. For example, headings in web pages are denoted by the tags `<h1>` through `<h6>`, where `<h1>` is the largest, main heading, and each subsequent one is smaller. The `<p>` tag denotes a paragraph.

Element Attributes

In addition to having a name, HTML elements can also have **attributes**, which provide additional information about them. For instance, the `` (image) tag takes an attribute called **src**, which specifies the address for, or where to find, an image. So a tag like `` would place the image `cat.jpg` on the webpage, so long as `cat.jpg` is in the same directory as the HTML document.

To create links to other pages in HTML, we use the `<a>` tag. The `<a>` tag takes an attribute called **href**, which specifies what web page the link should link to. As a result, HTML like `Click Here` would create a link labeled "Click Here" which, when clicked, would take the user to Google.

All HTML elements can also have an **id** attribute, which must be unique. The **id** can help to identify particular elements in the webpage. HTML elements can also have a **class** attribute, which does not have to be unique and can also be used to identify HTML elements. We'll see the utility of the **id** and **class** attributes when we begin dealing more with CSS and JavaScript.