

# HTML

*HyperText Markup Language*

# Some History

- In 1990, Berners-Lee specified HTML and wrote the first browser and server software that managed it.
- He wrote it as a way for other scientists to share documents over the internet.
- In 1991, HTML went ‘public’ with 18 tags.
- With the release of HTML5 there are now 119 tags.

# What is HTML?

- a *markup language* used to define the structure of web pages, using defined *semantics* and cues
- HTML is not a programming language – it is a markup language

# Elements & Tags

Webpages are made up of various *HTML elements*, defined by *HTML tags*

- Tags are what tell the browser what is grouped together, and how to display that group



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The language is written in the form of [HTML elements](#) consisting of [tags](#) enclosed in [angle brackets](#) (like `<html>`). Browsers do not display the HTML tags and scripts, but use them to interpret the content of the page.

HTML can embed [scripts](#) written in languages such as [JavaScript](#) which affect the behavior of HTML web pages. Web browsers can also refer to [Cascading Style Sheets](#) (CSS) to define the look and layout of text and other material. The [World Wide Web Consortium](#) (W3C), maintainer of both the HTML and the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.<sup>[2]</sup>

## HTML (HyperText Markup Language)

```
<!DOCTYPE html>
<html>
<!-- created 2010-01-01 -->
<head>
<title>sample</title>
</head>
<body>
<p>Voluptatem accusantium totam rem aperiam.</p>
</body>
</html>
```

HTML

Filename extension

.html  
.htm

Internet media type

text/html

Type code

TEXT

Developed by

W3C & WHATWG

Initial release

1993; 22 years ago

Latest release

5.0 / 5.1 (working draft)  
(28 October 2014; 9 months ago)

Type of format

Document file format

Extended from

SGML

Extended to

XHTML



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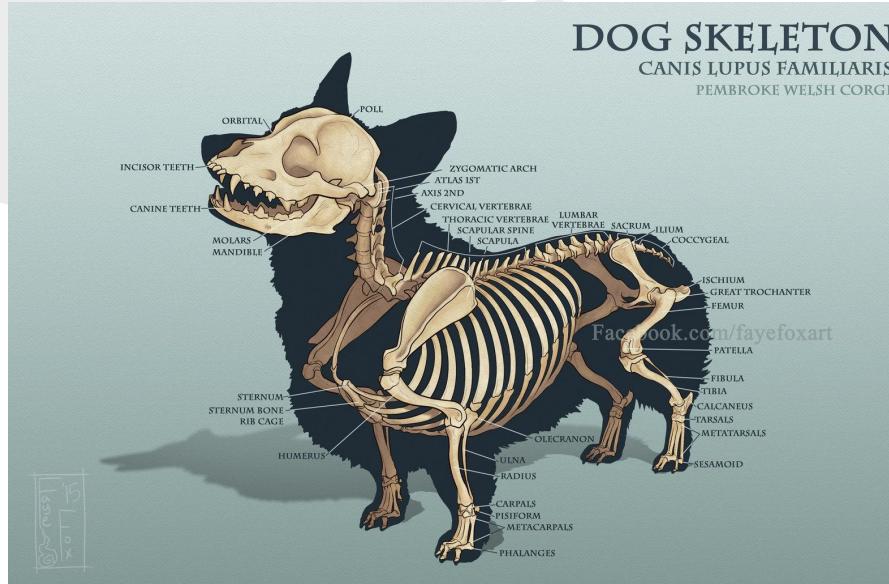
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# HTML is for defining structure

It is the skeleton of your web page



# HTML files

- saved as .html
- all HTML code should be included in <html> tags
- the top of your file must have <!DOCTYPE html>

```
1  <!DOCTYPE html>
2  <html>
3
4  <!-- Comments in html!
5  | Can wrap multiple lines! -->
6
7  </html>
```

# HTML Tags

- defined in <> brackets:  
`<section>, <article>, <form>`
- certain tags require an opening and closing tag  
`<section></section>, <article></article>,  
<form></form>`
- Everything within an element is considered either a string or markup.

# <head> and a <body>

- every html document has a head and a body
- head:
  - container for *metadata* (data about data)
  - HTML metadata typically defines data about the HTML document which will NOT be displayed
- body:
  - defines the document's body
  - contains all the things to be displayed on the screen

# <head> and a <body>

- As of HTML5, head and body are optional tags
- metadata defining tags, like <title>, <style>, <meta>, etc, should still be defined at the top of your document, in the head area
- tags which hold content to be displayed go below metadata defining tags, in the body area

# <title>...some text... </title>

- The text in the <title> element appear in the browser's chrome or tab.
- Only text can appear in the title
- Text which doesn't fit in the title space will be truncated
- Screen readers, robots, and search engines will read the title to get info about the page

# Document Formatting

HTML was originally designed to format documents

We're going to start with tags that define the elements of a document, not a web page.

Most of these tags were added in HTML5 to reestablish this type of documentation markup.

# Document Formatting Tags

- article
- section
- p
- aside
- footer
- header
- h1 - h6
- nav

# <article>

- specifies independent, self-contained content
  - forum post
  - blog post
  - news story
  - comment

An <article> should make sense on its own and be possible to distribute without the rest of the site.

# <section>

- defines *sections* in a document, such as chapters, sub-sections, headers, footers, etc

If you'd include a section of your document in an RSS feed or content outline, it's a <section>.

# <p>

- defines a paragraph
- browsers will automagically provide margin and padding around paragraph elements
- p tags should be used to define only paragraphs

# <aside>

- defines content that is an aside to the content it is placed in
  - ads
  - side-notes
  - related links

Aside content should be related to the surrounding content, but not a part of it.

# <footer>

- defines a footer for a document or section
- should contain information about it's containing element
  - authorship notes
  - copyright info
  - sitemap

You can have several footers in a document, across multiple sections or articles.

# <header>

- container for introductory content or set of navigational links
  - contains one of more header elements
  - logo, icon, or other branding
  - authorship info
- cannot be placed in a header, footer, or address element

You can have several headers in a document, spread across articles, sections, etc.

# <h1> - <h6>

- built in HTML heading tags
- span from h1 to h6, decreasing in size and margin
- h1 defines the most important heading, h6 the least important
- can be used with or without a header element to denote sections

# <nav>

- defines a set of navigation links
- NOT all links should go in nav tags!
  - only major chunks of navigation should go in a nav element

Screen-readers use this tag to help blind users navigate and read your content.

# Document Outlines

- web content is represented to screenreaders, browsers, and search engines by a table of contents that is generated by your HTML tags
- properly structured web pages mean better navigated web pages, by humans and robots alike

# HTML Outliner

A helpful tool to make sure your web pages are outlined correctly:

<https://gsnedders.html5.org/outliner/>

# A Note About Whitespace

Python:

“Whitespace is Sacred!”

HTML:

“LAWLs, whitespace bitespace, am I right?”

# Corgis Rule the Internet Exercise

- Using the tags presented thus far, outline the Corgis text provided into an HTML document
- Run it through the outliner website to make sure you have a good structure

# Attributes

- attributes provide additional information about the contents of an element
- appear on the opening tag of the element
- made up of a *name* and *value*, separated by an equals sign:  
`<p lang="en-us">Paragraph text</p>`
- the value is always passed as a string

# <img>

- an *empty element* that contains no end tag
- must have the *src* and *alt* attribute
  - **src**: relative location of the image to be inserted by the browser
  - **alt**: text description of the image for screen-readers, robots, or for when the image is missing

```

```

# Pictures!!

Add pictures wherever you would like in your Corgi article using the img tag.

- Feel free to use the height and width attributes to set the size of the images

# Lists

There are 3 built in lists in HTML:

1. Ordered Lists – you’re reading one
2. Unordered Lists – most my slides use these
3. Definition Lists – Websters Dictionary  
LOVES these

Browsers indent and give extra margins to lists automagically.

# `<ol>` – Ordered List

- defines an ordered list of *list items*

# `<ul>` – Unordered List

- defines an unordered list of *list items*

# <li> – List Item

- defines a list item

For ol or ul lists, you define them as such:

```
<ol>  
  <li>List Item 1!</li>  
  <li>List Item 2!</li>  
</ol>
```

# <dl> – Definition Lists

- typical consists of a list of terms and their definitions

```
<dl>
  <dt>Definition Term</dt>
  <dd>Definition Definition</dd>
  <dt>Definition Term</dt>
  <dd>Definition Definition</dd>
</dl>
```

# <a> – Anchor (Links)

- defines an anchor to another web page or site (aka, a link)
- requires the href attribute, which defines where the link goes
- anything within the <a> element is considered to be a part of the link and is made clickable
  - Yes, Anything.

# <a> – anchor (link)

- href needs to be a *relative path* to the page you want the browser to go to, relative to the current page's position

```
<a href="corgis_rule.html">Corgi's Rule!</a>
```

- if you want to go to another domain, you need to include an *absolute path*

```
<a href="http://google.com">Google It!</a>
```

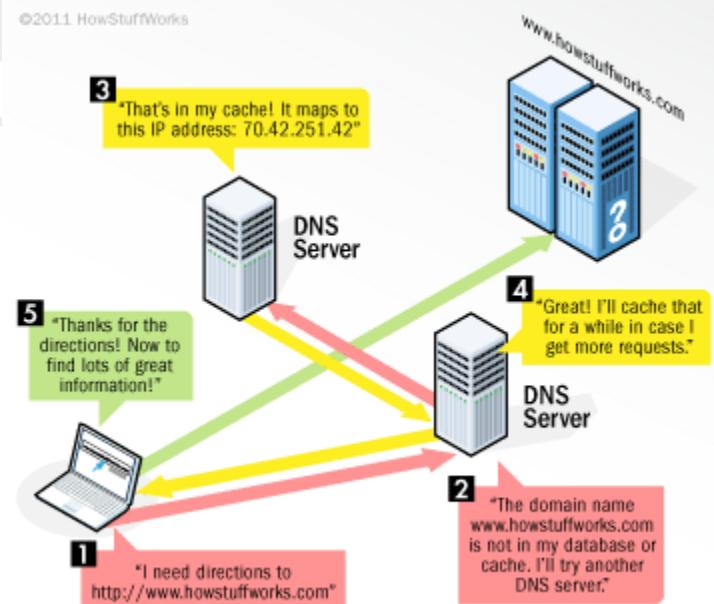
# URLs, a Study

- Uniform Resource Locator is what URL actually means
- DNS Servers store what URLs point to what IPs, which are unique addresses to servers around the world

# IPs

- A street address for your computer, leased by your network provider
- static IPs are permanent addresses, usually given to servers

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# What's that mean for us?

Links you put into your webpages can go anywhere you want, as long as you know the address.

Browsers block servers from accessing a user's local addresses, unless the linking page is local, or settings allow it.

# Anywho.. Exercise Time!

Create another web page using text you create or steal from the internet.

It must contain:

- several paragraphs
- a list of some sort
- at least 1 image
- a link to your Corgi article

# Python Time!!!

Write a quick Python program that reads in your new article and generates an outline for it, just like the HTML 5 Outliner does.

Output this outline to the console/terminal.