

# Introduction to HTML



# Introduction

- Web developers view a web page as a document that must be created according to authoring and development guidelines
- Web developers use **HTML**(HTML5) to write code of a web page
- Web browsers have a built-in interpreter to render the results of a code in its window

# Resources – Code Academy

The screenshot shows a split-screen interface. On the left, a white sidebar titled "Learn" contains the "INTRODUCTION TO HTML" section. This section includes a heading "Introduction to HTML" and a large block of text explaining the importance of HTML in web development. On the right, the main content area has a dark header with "Learn HTML" and a "Try Pro For Free" button. Below the header is a code editor window titled "index.html" containing the code "`1 <h1></h1>`". To the right of the code editor is a browser-like view showing the rendered output at "https://localhost/" which displays a single red "H1" heading. At the bottom of the screen are several navigation and utility buttons: "Run", "refresh", "undo", "redo", "Back", "Next", "1/16", and "Get Unstuck".

codecademy

Learn HTML

Try Pro For Free

index.html

1 <h1></h1>

https://localhost/

Learn

INTRODUCTION TO HTML

## Introduction to HTML

Welcome to the world of code! Last year, millions of learners from our community started with HTML. Why? HTML is the skeleton of all web pages. It's often the first language learned by developers, marketers, and designers and is core to front-end development work. If this is your first time touching code, we're excited for what you're about to create.

So what exactly is HTML? HTML provides structure to the content appearing on a website, such as images, text, or videos. Right-click on any page on the internet, choose

Run

Back

1/16

Next

Get Unstuck

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Computer programming

## Unit: Intro to HTML/CSS: Making webpages

### Intro to HTML

Learn what HTML is and how to make a webpage with marked up text and images.

Learn

-  Welcome to the web!
-  HTML basics
-  Quick tip: HTML tags
-  Challenge: Write a Poem
-  HTML: Text emphasis
-  Challenge: You can learn text tags
-  HTML: Lists
-  [View all lessons](#)

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# The World Wide Web

## ■ Definitions (W3C)

### □ **HTML**

- The HyperText Markup Language
- The language used to design web pages

### □ **XHTML**

- The eXtensible HyperText Markup Language
- Intended to enhance HTML, not replace it

### □ **HTML5**

- Builds upon previous versions of the markup language to provide greater flexibility and control over websites.

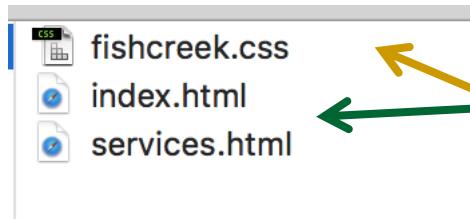
# Content of Web Pages

- The content of a web site can be classified as:
  - **Static content** – does not change regularly e.g. personal and professional web sites
  - **Dynamic content** – changes regularly e.g., banking web sites, weather reports...

# Authoring of Web Pages

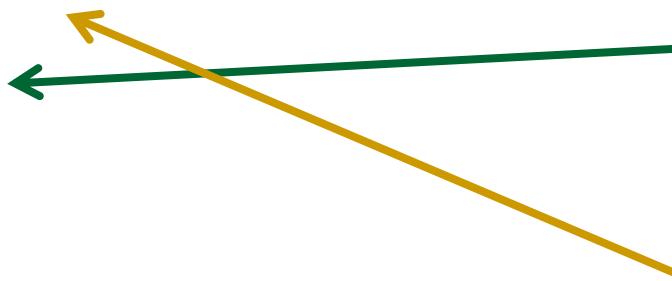
- After a web page is designed one needs to use HTML code to author a web page

# How does this work?



If I double click on this, I see what this web page looks like.

If I right-click and open with something like Notepad++, I can see and alter the code.



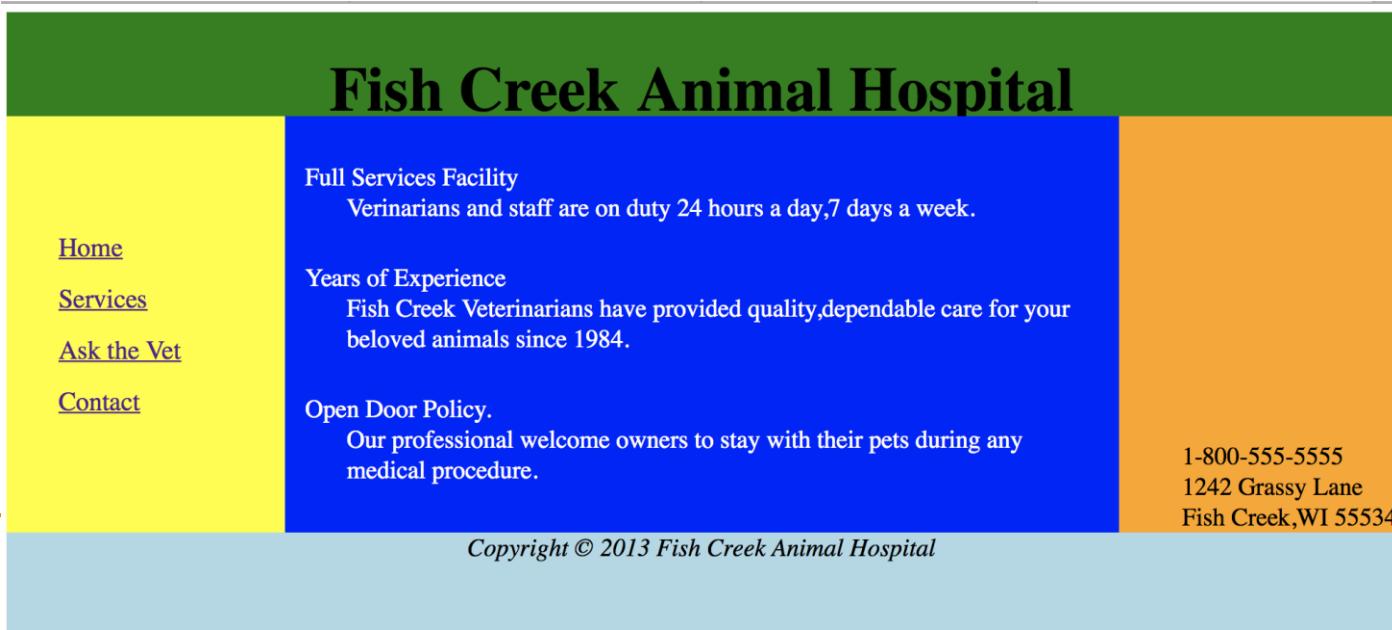
If I double click on this, I see the CSS code which is the code for styling the page. I can edit it here.

- When I am happy with all of my code, I can host it on a webserver so that it can be viewed on the internet.

# HTML

## ■ HTML is made of:

- Text content – what you see
- Markup – what it looks like
- Reference to other documents e.g, images, pdfs
- Links to other pages



The screenshot shows a three-column website layout. The top bar is dark green with the hospital's name in white. The left column is yellow and contains navigation links: Home, Services, Ask the Vet, and Contact. The middle column is blue and contains three main sections: 'Full Services Facility' (with a sub-note about 24-hour staff), 'Years of Experience' (noting 30 years since 1984), and 'Open Door Policy' (welcoming owners to stay with their pets). The right column is orange and displays the phone number, address, and city. The bottom bar is light blue with a copyright notice.

**Fish Creek Animal Hospital**

[Home](#)  
[Services](#)  
[Ask the Vet](#)  
[Contact](#)

**Full Services Facility**  
Veterinarians and staff are on duty 24 hours a day, 7 days a week.

**Years of Experience**  
Fish Creek Veterinarians have provided quality, dependable care for your beloved animals since 1984.

**Open Door Policy.**  
Our professional welcome owners to stay with their pets during any medical procedure.

1-800-555-5555  
1242 Grassy Lane  
Fish Creek, WI 55534

Copyright © 2013 Fish Creek Animal Hospital

# Starting HTML – a tag

**<name>** Contents **</name>**

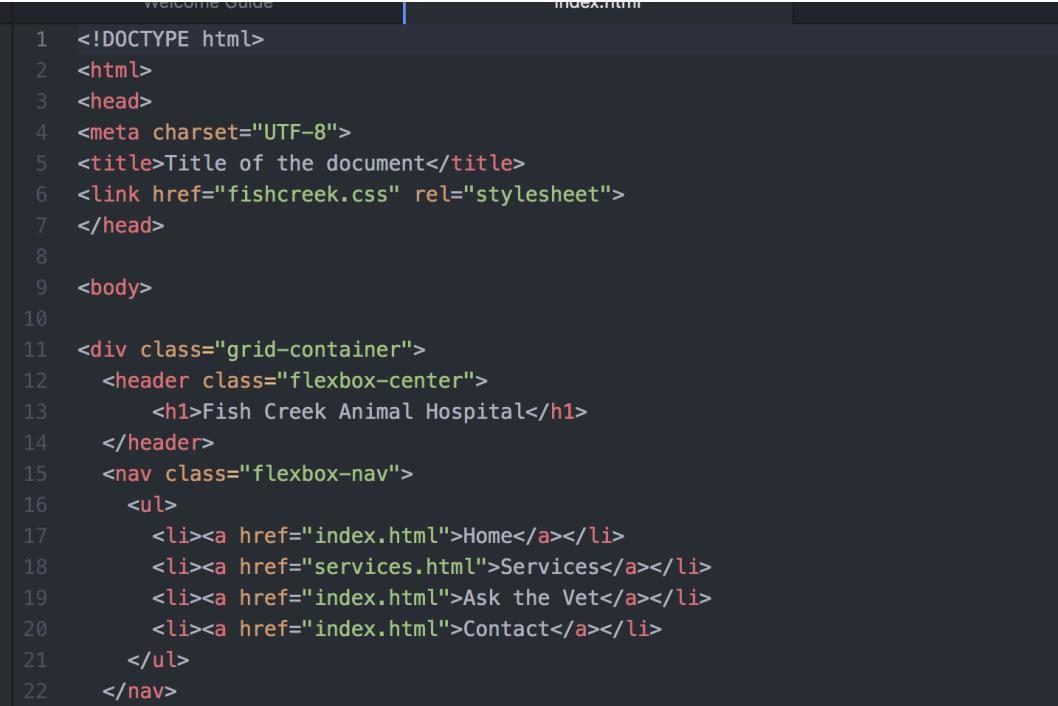
**Opening tag**                                   **Closing tag**

```
Welcome Guide | Index.html
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <meta charset="UTF-8">
5  <title>Title of the document</title>
6  <link href="fishcreek.css" rel="stylesheet">
7  </head>
8
9  <body>
10
11 <div class="grid-container">
12   <header class="flexbox-center">
13     <h1>Fish Creek Animal Hospital</h1>
14   </header>
15   <nav class="flexbox-nav">
16     <ul>
17       <li><a href="index.html">Home</a></li>
18       <li><a href="services.html">Services</a></li>
19       <li><a href="index.html">Ask the Vet</a></li>
20       <li><a href="index.html">Contact</a></li>
21     </ul>
22   </nav>
```

# Syntax

- Tags are enclosed in brackets (<,>)
- Content is enclosed between the tags
- Tags and content form look as follows:

**<start-tag>** *content* **<end-tag>**



```
Welcome Guide | index.html
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <meta charset="UTF-8">
5 <title>Title of the document</title>
6 <link href="fishcreek.css" rel="stylesheet">
7 </head>
8
9 <body>
10 <div class="grid-container">
11   <header class="flexbox-center">
12     <h1>Fish Creek Animal Hospital</h1>
13   </header>
14   <nav class="flexbox-nav">
15     <ul>
16       <li><a href="index.html">Home</a></li>
17       <li><a href="services.html">Services</a></li>
18       <li><a href="index.html">Ask the Vet</a></li>
19       <li><a href="index.html">Contact</a></li>
20     </ul>
21   </nav>
22 </body>
```

# Structural tags are mandatory

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

Styling, metadata.... goes here

```
  </head>
```

```
<body>
```

Web page content goes here

```
  </body>
```

```
</html>
```

**< b > < / b >**

Make content bold

# First tag - <b></b>

**Description:**

<b> Contents </b>

**Implementation:**

<b>TU259 is the code of this course</b>

**Output:**

TU259 is the code of this course

# What happens if you forget to close <b> tag ?

1. All text is bold
2. No text is bold
3. The page does not render

`<em></em>`

Emphasises content by  
using italics

<em></em>

## Description:

<em> Contents </em>

## Implementation:

<em>TU259 is the code of this course</em>

## Output:

*TU259 is the code of this course*

# Exercise

Write the code that would have the following output:

**TU259** is the *code* of this course

`<a></a>`

Used to link web pages  
together

# HTML Attributes

**<tag attr="value"> Contents </tag>**

# HTML Attributes - <a></a>

Anchor - <a> - link

<a href="https://www.tudublin.ie/"> Overview of TU  
Dublin</a>

**attribute**

**value**



**< a > </ a >**

## Description:

**< a href = “...” > .... </ a >**

## Implementation:

**< a href=“https://tudublin.ie” > Overview of TUDublin</ a >**

## Output:

**Overview of TUDublin**

# Hyperlinks

- **Anchors** are `<a>` tags to link different sections of the same web page
- 2 uses of anchors are for table of contents and eliminating scrolling
- Creation of anchor requires 2 `<a>` tags  
`<a name="sale">` and `<a href="#sale">`

# Hyperlinks - anchors

**< a name="Contents">Table of Contents</a>**

**< a href="#Contents"> Return to Table of  
Contents</a>**

<img>

Defines an image

# **<img> - VOID tag**

**Description:**

```
<img src = URL alt = text>
```

For accessibility  
Broken request

**Implementation:**

```

```

**Output:**



# Exercise

Write the code that would make the following image (Tudublinlogo.jpg) a link to the TU Dublin website:



<br>

Used when you need to  
break a line prematurely

# **<br> - VOID tag**

## **Description:**

**<br>**

## **Implementation:**

TU Dublin is Ireland's first Technological University. **<br>** With campuses in Dublin City, Tallaght and Blanchardstown, it spans the largest population centres of ...

## **Output:**

TU Dublin is Ireland's first Technological University.  
With campuses in Dublin City, Tallaght and Blanchardstown,  
it spans the largest population centres of ...

< p > < / p >

Main textual blocks

< p > </ p >

## Description:

< p > </ p >

## Implementation:

< p > TU Dublin is Ireland's first Technological University. </ p >

< p > With campuses in Dublin City, Tallaght and Blanchardstown, it spans the largest population centres of ... </ p >

## Output:

TU Dublin is Ireland's first Technological University.

With campuses in Dublin City, Tallaght and Blanchardstown, it spans the largest population centres of ...

```
<p></p>
```

<p>This a paragraph of text in a HTML document</p>



This a paragraph of text in an HTML document



*Line space*

# `<p></p>, <br>`

`<p>This a paragraph of text in an HTML document</p>`

`<p>This a 2nd paragraph of text in an HTML document</p>`



This a paragraph of text in an HTML document

This a 2nd paragraph of text in an HTML document

`<p>This a paragraph of text in an HTML document</p>`

`<br/>`

`<p>This a 2nd paragraph of text in an HTML document</p>`



This a paragraph of text in an HTML document

This a 2nd paragraph of text in an HTML document

<title></title>

The title of the web page

# `<title></title>`

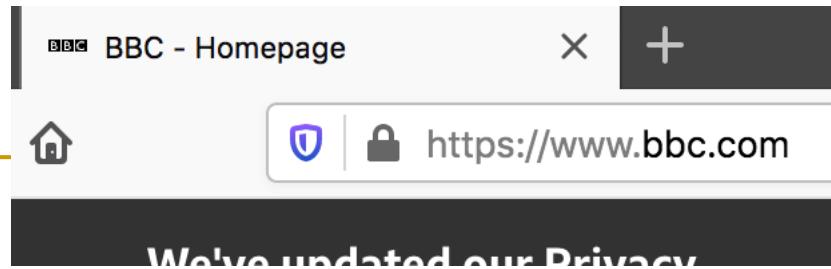
## Description:

`<title>` This is the title you want to appear on the browser`</title>`

## Implementation:

`<title>BBC - Homepage</title>`

## Output:



<h1></h1> ...<h6></h6>

Headings

# Headings

- There are 6 levels of headings `<h1>.....<h6>`, the higher the heading number the smaller the text

`<h1> Heading 1</h1>`  
`<h2> Heading 2</h2>`  
`<h3> Heading 3</h3>`  
`<h4> Heading 4</h4>`  
`<h5> Heading 5</h5>`  
`<h6> Heading 6</h6>`



**Heading 1**  
**Heading 2**  
**Heading 3**  
**Heading 4**  
**Heading 5**  
**Heading 6**

# Exercise

- Write the code which would produce the following output:

## Academic Calendar

The standard TU Dublin *academic calendar* is available online at

<http://www.dit.ie/academicaffairsandregistrar/calendar/>

---

<hr>

Horizontal rules appear as  
lines across the user agent  
screen

---

**<hr>**

**Description:**

**<hr>**

**Implementation:**

A line should be drawn under this text

**<hr>**

**Output:**

A line should be drawn under this text

```
<div> </div>
```

Format a large block of text  
in a similar fashion

```
<div></div>
```

## Description:

```
<div></div>
```

## Implementation:

This will go into a CSS file!

```
<div style="text-align:center">
```

Text formatted using div tag

```
</div>
```

## Output:

Text formatted using div tag

`<ol> </ol>`

`<ul> </ul>`

`<dl> </dl>`

**Lists**

# Lists

- HTML supports 3 types of lists:
  - **Ordered** – `<ol>`
  - **Unordered** – `<ul>`
  - **Definition** – `<dl>`
- Lists may be nested to obtain multiple hierarchy levels

# Ordered List - <ol>

- Lists whose elements must appear in a certain order
- Such lists usually have their items prefixed with a number or letter

```
<ol>
  <li>Apples</li>
  <li>Bananas</li>
  <li>Coconuts</li>
</ol>
```



1. Apples
2. Bananas
3. Coconuts

# Ordered List - <ol>

- How can the numbering style be changed??

```
<ol style="list-style-type: lower-alpha">  
    <li>Apples</li>  
    <li>Bananas</li>  
    <li>Coconuts</li>  
</ol>
```



- a. Apples
- b. Bananas
- c. Coconuts

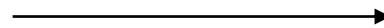
- Some other style options:

- decimal
- lower-roman
- upper-roman
- upper-alpha

# Unordered List - <ul>

- Lists whose elements do not have to appear in a certain order

```
<ul>
    <li>Apples</li>
    <li>Bananas</li>
    <li>Coconuts</li>
</ul>
```



- Apples
- Bananas
- Coconuts

# Unordered List - <ul>

- How can the list item marker be changed??

```
<ul style="list-style-type: square">  
    <li>Apples</li>  
    <li>Bananas</li>  
    <li>Coconuts</li>  
</ul>
```



- Apples
- Bananas
- Coconuts

- Some other style options:

- disc
- circle
- none

# Definition List - <dl>

- More complex than the other 2 lists due to their having 2 elements per list item

```
<dl>
  <dt>Internet Explorer</dt>
    <dd>Developed by Microsoft</dd>
  <dt>Netscape</dt>
    <dd>Developed by Netscape</dd>
</dl>
```



```
Internet Explorer
  Developed by Microsoft
Netscape
  Developed by Netscape
```

# Definition(Description in HTML5)

## List - <dl>

```
<dl>
  <dt>Internet Explorer</dt>
    <dd>Developed by Microsoft</dd>
  <dt>Netscape</dt>
    <dd>Developed by Netscape</dd>
</dl>
```



```
Internet Explorer
  Developed by Microsoft
Netscape
  Developed by Netscape
```

# Exercise:

- Write the code which would produce the following output:

- Send us a letter, including:
  1. Your full name
  2. Your order number
  3. Your contact information
- Use the web form to send an email

# <video>

Used to incorporate video  
files (HTML5)

**<video>**

**Description:**

**<video>**

**Implementation:**

**<video height="60" volume="70" controls>**

**<source src="music.mp4" type="video/mp4">**

**</video>**

**Output:**

*A picture of the media file*

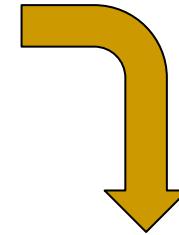
# <video> - sample

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

<h1>The video element</h1>

<video width="320" height="240" controls>
  <source src="movie.mp4" type="video/mp4">
  <source src="movie.ogg" type="video/ogg">
    Your browser does not support the video tag.
</video>

</body>
</html>
```



## The video element



# <embed>

Used to incorporate audio  
and video files

# **<embed> - VOID tag**

**Description:**

**<embed>**

**Implementation:**

```
<embed src="music.mp3" width="145"  
height="60" volume="70">
```

**Output:**

*A picture of the media file*

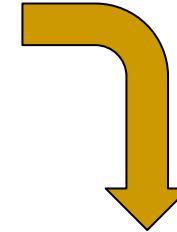
# <embed> - sample

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

<h1>The embed element</h1>

<embed type="image/jpg" src="pic_trulli.jpg" width="300"
height="200">

</body>
</html>
```



## The embed element



# Some rules/guidelines

- **Document Structure**
  - DOCTYPE is **mandatory**
  - <html>, <head>, <title>, and <body> is **mandatory**
- **Elements**
  - Elements must be **properly nested**
  - Elements must always be **closed**
  - Elements must be in **lowercase**
  - Documents must have **one root element**
- **Attributes**
  - Attribute names must be in **lower case**
  - Attribute values must be **quoted**
- Comments can be used
- Escaped characters are used
- Do not use deprecated or obsolete tags
- Browsers ignore mis-spelled tags

Where do all of these tags  
go?

# HTML5 Document Structure

```
<!DOCTYPE html>
<html>
  <head>
    <title> HTML5 Document Structure </title>
    <meta charset="utf-8">
  </head>
  <body>
    Web page content goes here
  </body>
</html>
```

HTML5 template -

[https://drive.google.com/open?id=1fuMydY72NMCIIns4czJmLSkdO2ioiNVd9&authuser=450273%40dit.ie&usp=drive\\_fs](https://drive.google.com/open?id=1fuMydY72NMCIIns4czJmLSkdO2ioiNVd9&authuser=450273%40dit.ie&usp=drive_fs)

# Document Tags

- The tags that make up the framework of a typical HTML document include the following:
  - Document type tag – **DOCTYPE**  
`<!DOCTYPE html>`
  - Top-level tag, generally **<html>**
    - Tag indicates the beginning and end of an HTML5 document

# Document Tags - Header

- Header section, delimited by `<head>` tags
  - Provides extra information about the document
  - Serves as a container such as styles and global scripts

# Document Tags - Body

- Body section, delimited by <body> tags
  - Section where visible content appears
  - Content is a series of block tags containing inline content

# How can I write my first web page?

1. Download **html5template.html** from Week 1 folder in Brightspace
2. Open this file in a text editor e.g., Notepad
3. Save it as **Example1.html**

HTML5 template -

[https://drive.google.com/open?id=1fuMydY72NMCIIns4czJmLSkdO2ioiNVd9&authuser=450273%40dit.ie&usp=drive\\_fs](https://drive.google.com/open?id=1fuMydY72NMCIIns4czJmLSkdO2ioiNVd9&authuser=450273%40dit.ie&usp=drive_fs)

# Good resources

- <https://www.w3schools.com/>
- <https://www.lynda.com/>
- <https://teamtreehouse.com/>
- <https://www.freecodecamp.org/>
- <https://stackoverflow.com/>

# Reference

- HTML5 documentation –  
<http://www.w3.org/TR/html-markup>