Planning de travail

Première partie : Introduction

Deuxième partie : HyperText Markup Language (HTML)

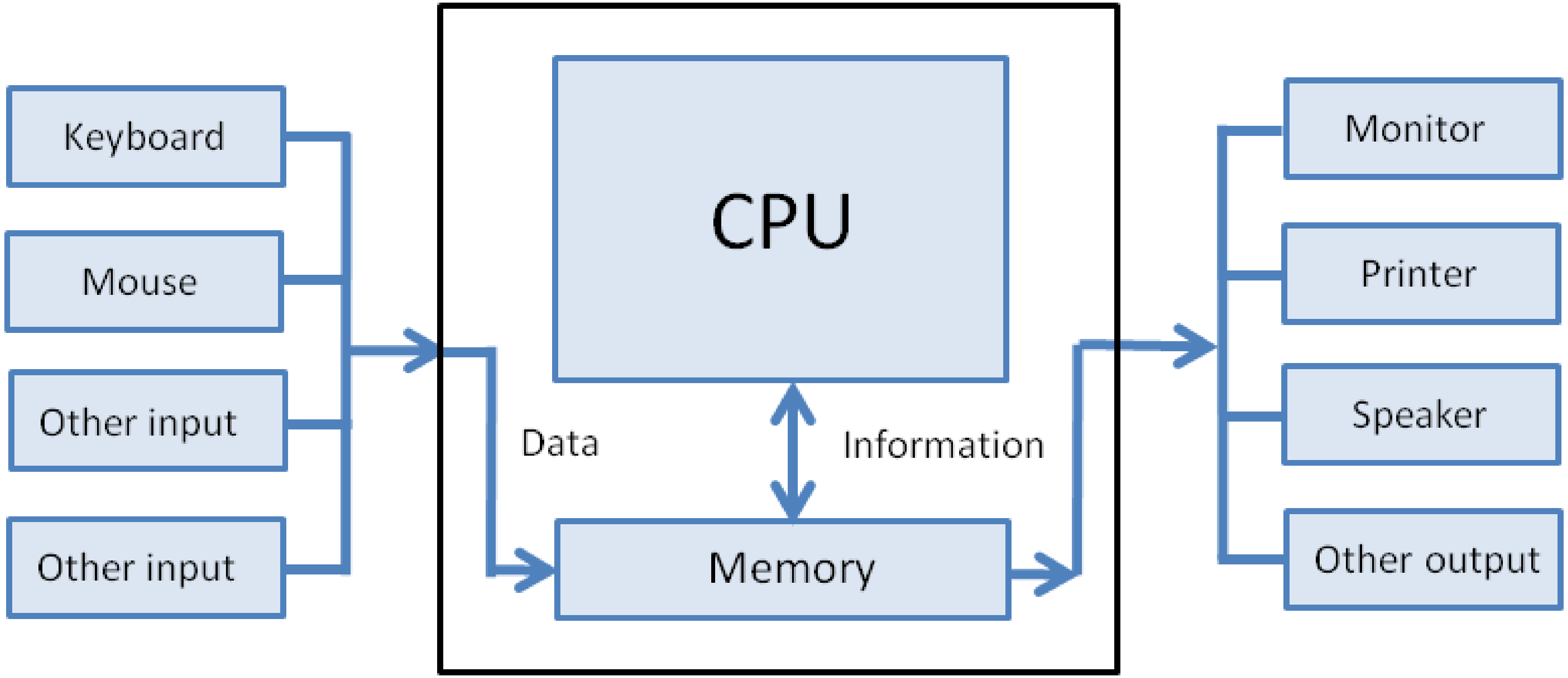
Troisième partie : Cascading Style Sheets (CSS)

Quatrième partie : Projet personnel

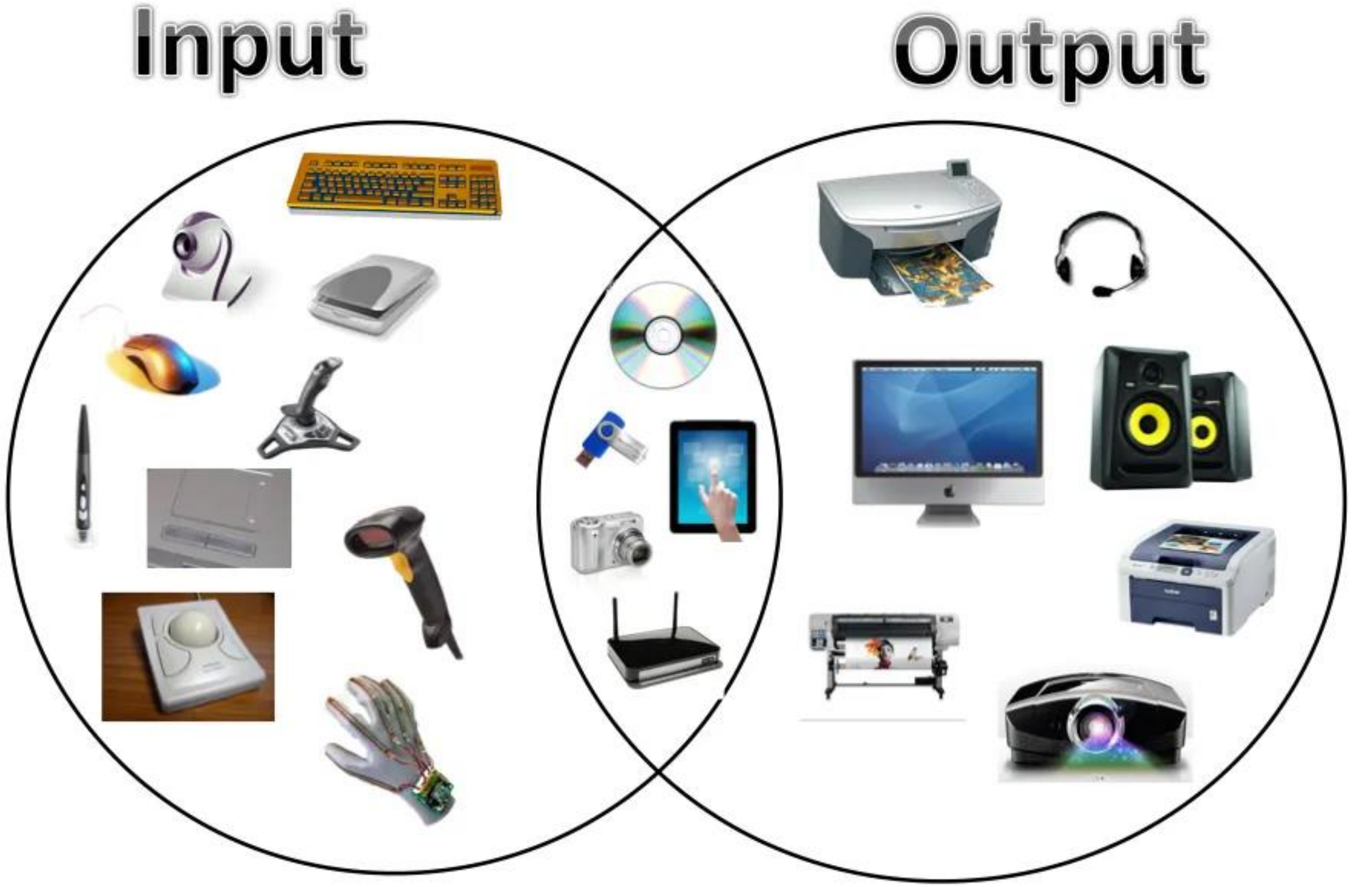
Première partie

Introduction 1 : What is a PC ?

What is a PC

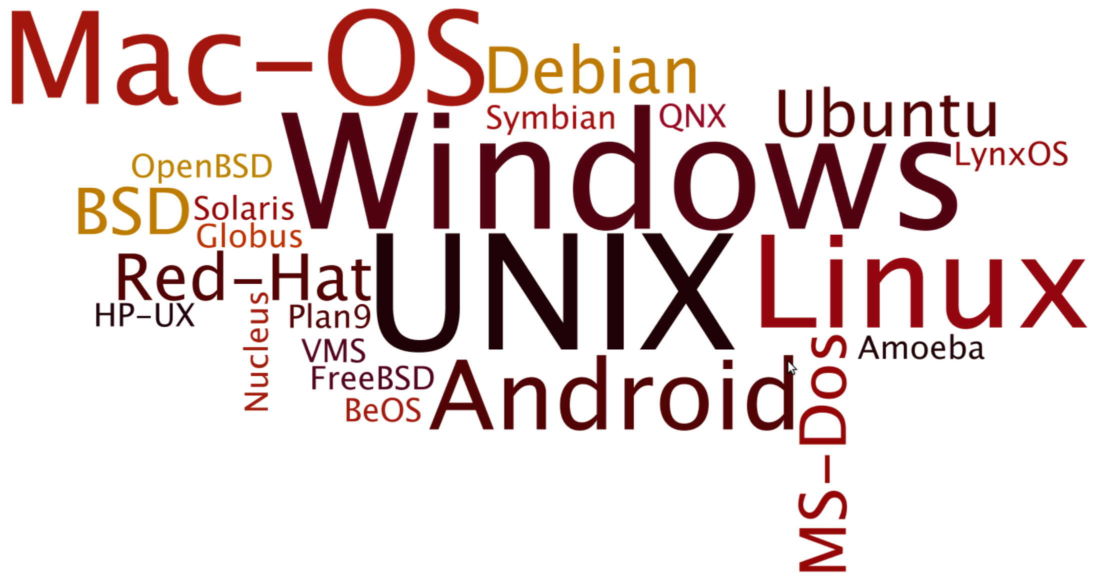

Keyboard
Mouse
Other input
Other input
CPU
Data
Information
Memory
Monitor
Printer
Speaker
Other output

What is a PC



Operating System

- Un ordinateur fonctionne grâce à un programme particulier qui est le système d’exploitation.
- Le système d’exploitation est en fait un ensemble des programmes qui gèrent les ressources matérielles et logicielles.



Operating System

- Il propose une aide au dialogue entre l’utilisateur et l’ordinateur :
    - ❑ l’interface textuelle (interpréteur de commande)
    - ❑ ou graphique (gestionnaire de fenêtres).

- Il est souvent multitâche et parfois multiutilisateur.

- En informatique, les 3 principaux systèmes d’exploitation sont: Windows, OS X et Linux

Processeur

- Un processeur (ou unité centrale de traitement, UCT, en anglais central processing unit, CPU) :
  - Un composant présent dans de nombreux dispositifs électroniques qui exécute les instructions machine des programmes informatiques.
- Avec la mémoire, c'est notamment l'un des composants qui existent depuis les premiers ordinateurs et qui sont présents dans tous les ordinateurs.

Processeur

- L'ordinateur ne sait manipuler que du binaire, c'est-à-dire une succession de 0 et de 1, c’est ce que nous appelons le langage machine.

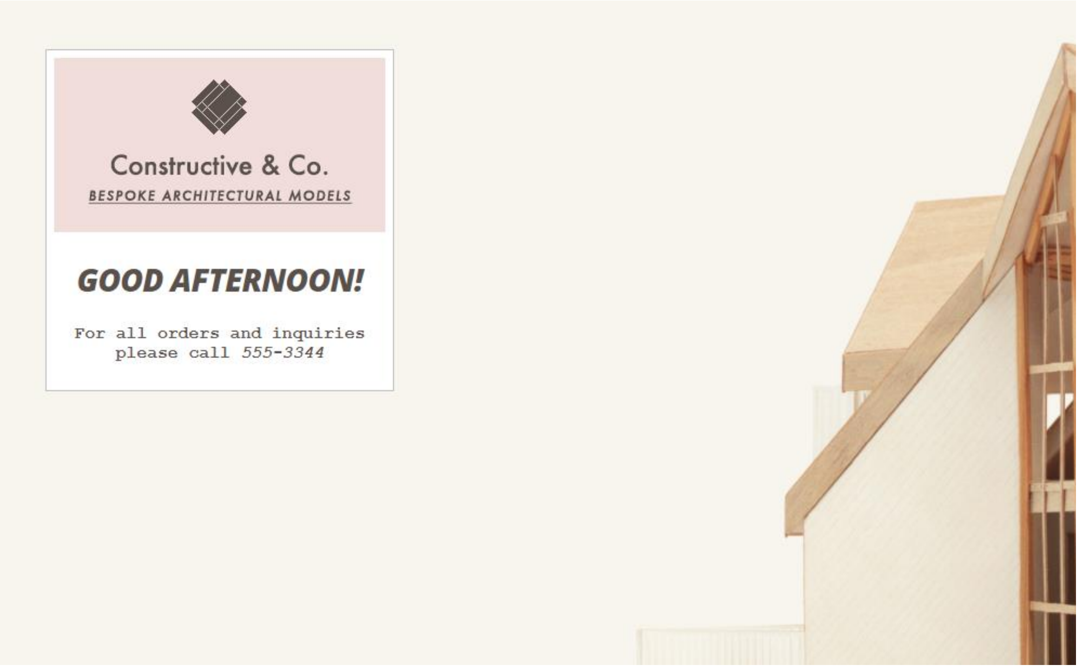
- Comme ce langage est trop difficile à utiliser pour nous les humains, il sera donc nécessaire d'utiliser un langage de programmation évolué pour écrire de façon lisible, c'est-à-dire avec des instructions compréhensibles par l'humain, les instructions qui seront exécutées par l'ordinateur.

- Le code écrit dans ce type de langage sera ensuite transformé en langage machine pour être exploitable par le processeur

What is a website

- Each page on a website can be seen as a separate document.
- The web consists of many sites, each made up of one or more documents.

The website



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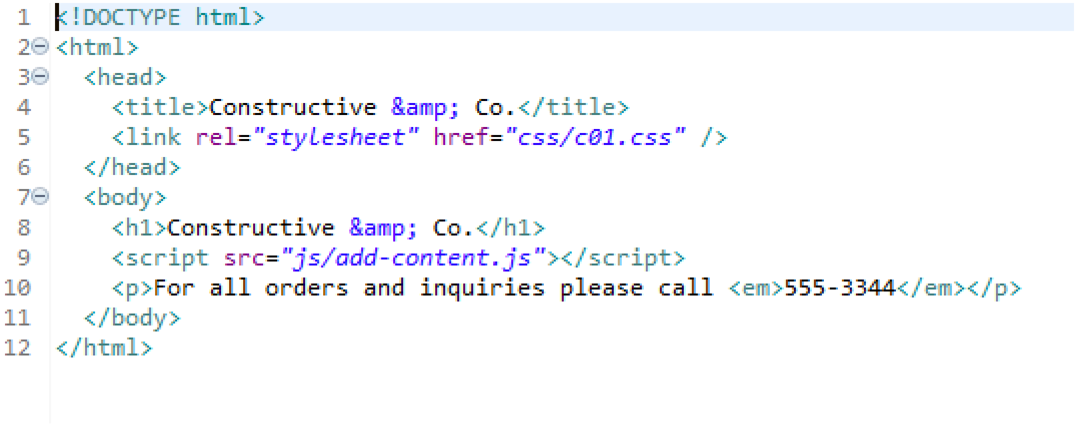
←

The document



```html
<!DOCTYPE html>
<html>
  <head>
    <title>Constructive &amp; Co.</title>
    <link rel="stylesheet" href="css/c01.css" />
  </head>
  <body>
    <h1>Constructive &amp; Co.</h1>
    <script src="js/add-content.js"></script>
    <p>For all orders and inquiries please call <em>555-3344</em></p>
  </body>
</html>
```

How people access the web

Browsers:

- Software that includes a rendering engine
- Interprets the HTML and CSS code to create the page that we see
- Examples:

Web servers:

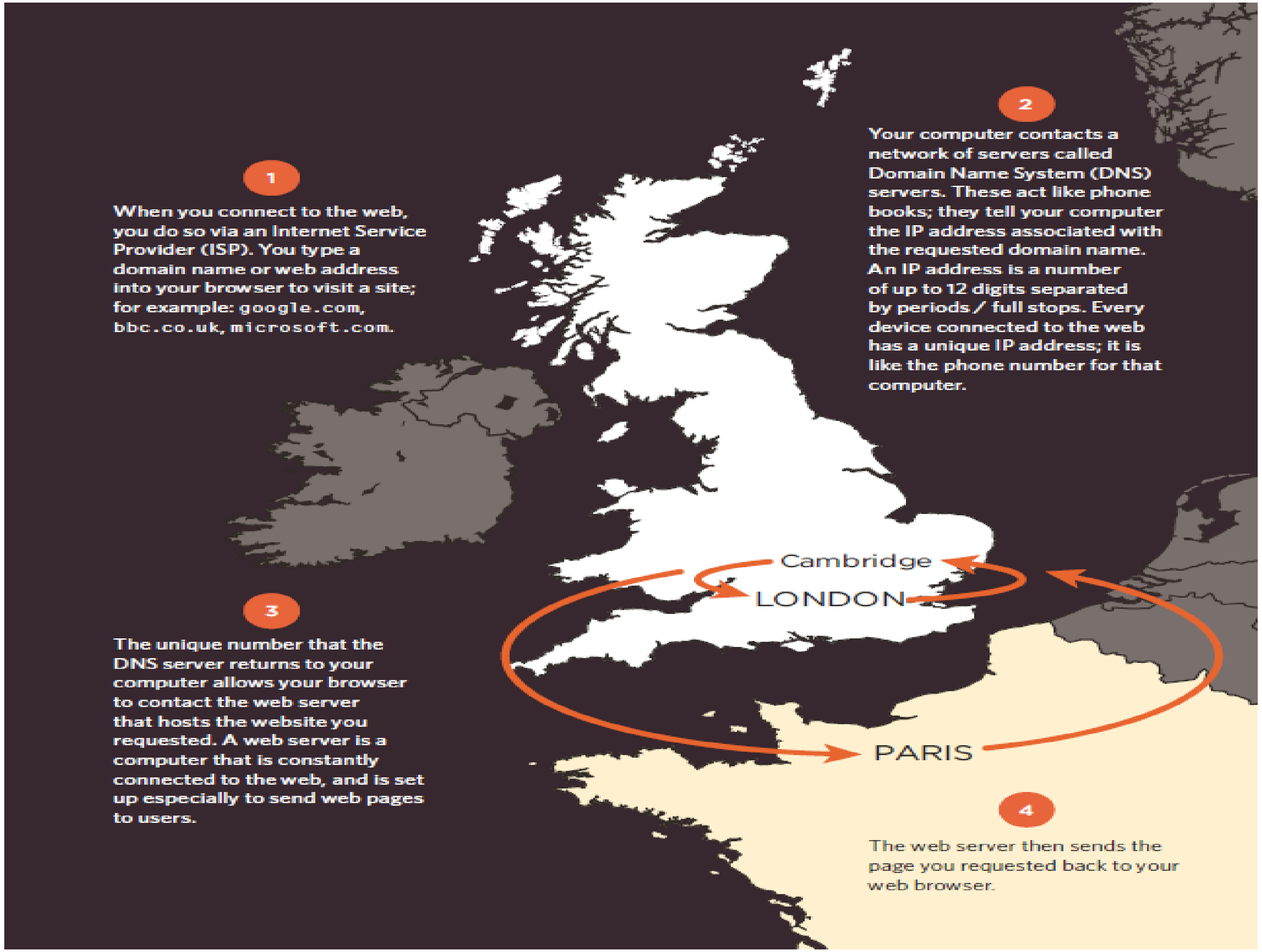
- Special computers that are constantly connected to the internet
- Optimized to send web pages out to people who request them

Domain Name System (DNS):

- The phonebook of the Internet
- Humans access information online through domain names, like google.com or facebook.com
- Web browsers interact through Internet Protocol (IP) addresses (ex: 179.60.192.36)
- DNS translates domain names to IP addresses so browsers can load Internet resources

Try cmd command: nslookup facebook.com

How people access the web



1

When you connect to the web, you do so via an Internet Service Provider (ISP). You type a domain name or web address into your browser to visit a site; for example: `google.com`, `bbc.co.uk`, `microsoft.com`.

2

Your computer contacts a network of servers called Domain Name System (DNS) servers. These act like phone books; they tell your computer the IP address associated with the requested domain name. An IP address is a number of up to 12 digits separated by periods / full stops. Every device connected to the web has a unique IP address; it is like the phone number for that computer.

3

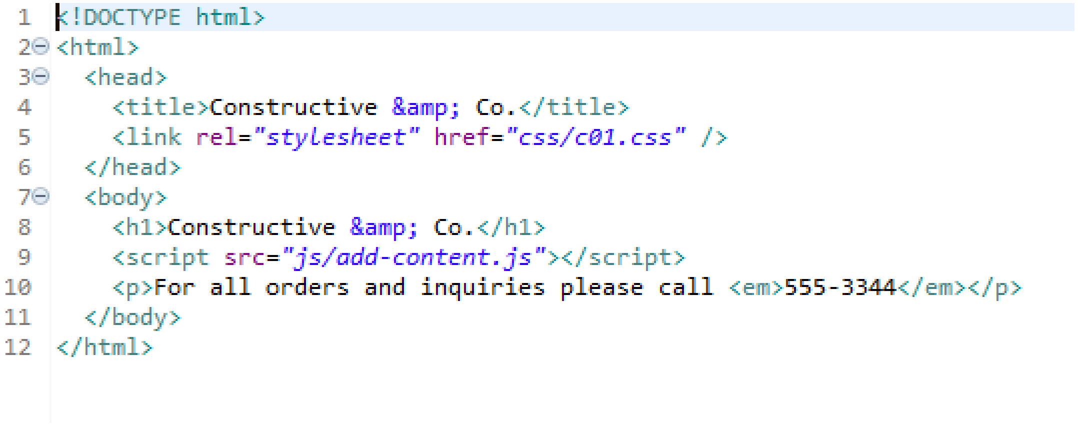
The unique number that the DNS server returns to your computer allows your browser to contact the web server that hosts the website you requested. A web server is a computer that is constantly connected to the web, and is set up especially to send web pages to users.

4

The web server then sends the page you requested back to your web browser.

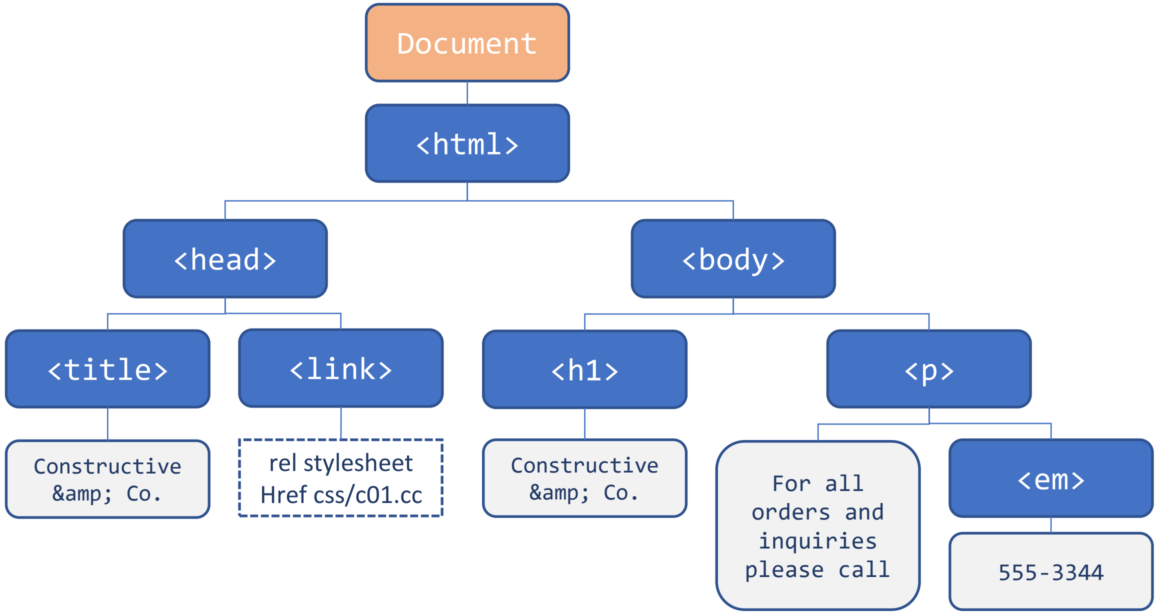
How a browser sees a web page

1- The browser receives an HTML page



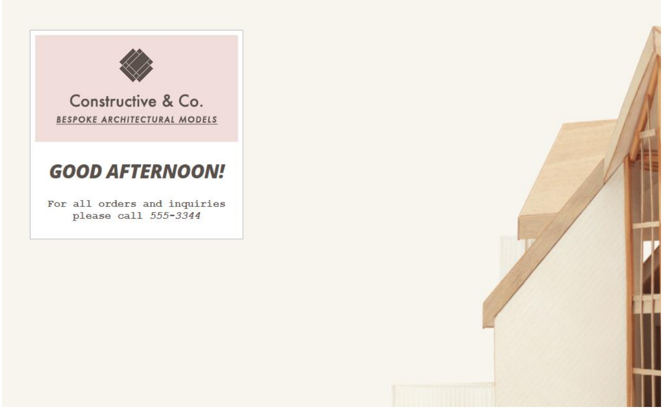
```html
<!DOCTYPE html>
<html>
  <head>
    <title>Constructive &amp; Co.</title>
    <link rel="stylesheet" href="css/c01.css" />
  </head>
  <body>
    <h1>Constructive &amp; Co.</h1>
    <script src="js/add-content.js"></script>
    <p>For all orders and inquiries please call <em>555-3344</em></p>
  </body>
</html>
```

2- The browser creates a model of the page and stores it in the memory



- ● Object
- ● Element
- ○ Text
- ⬚ Attributes

3- It shows the page on screen using a rendering engine



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Contents of a web site

The 3 main languages used to create websites :

HTML

Content layer

The HTML gives the page structure and adds semantics

CSS

Presentation layer

The CSS enhances the HTML with rules that state how the HTML content is presented

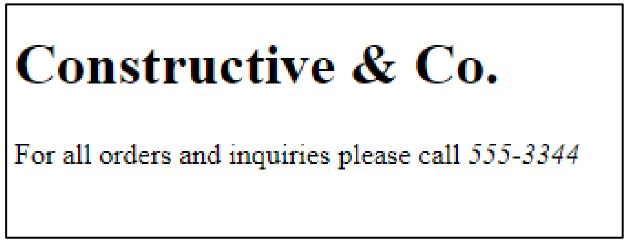
Javascript

Behavior layer

This is where we can change the behavior of the web page (dynamic pages)

Contents of a web site

The 3 main languages used to create websites :



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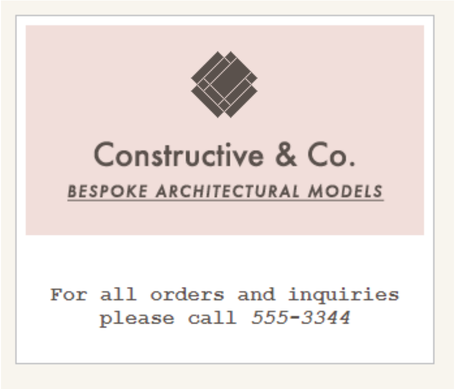
HTML only



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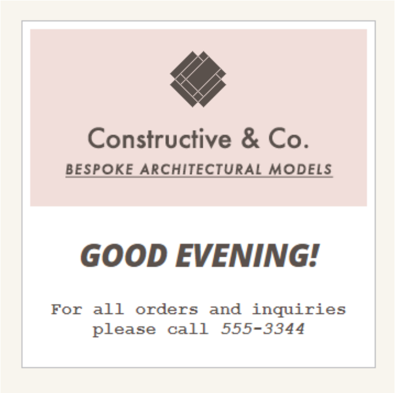
HTML + CSS



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HTML + CSS + JavaScript

- The contents of the page
- Works on all devices
- Loads quickly on slow connections

- Adds the presentation layer, how the website should look

- Adds the behavior layer, how the website should behave

How to build web sites

IDE:
An Integrated Development Environment (IDE) is software for building applications that combines common developer tools into a single Graphical User Interface (GUI).

Two types of IDEs for web development:

1. **WYSIWYG (What You See Is What You Get):** Microsoft Word is an example of a word processing program designed as a WYSIWYG editor because you see immediately what you changed in the document, but you don't see the program instructions in the form of the source code.
   + : Fast to implement, No knowledge required
   - : Limited approach, low quality of the interior code

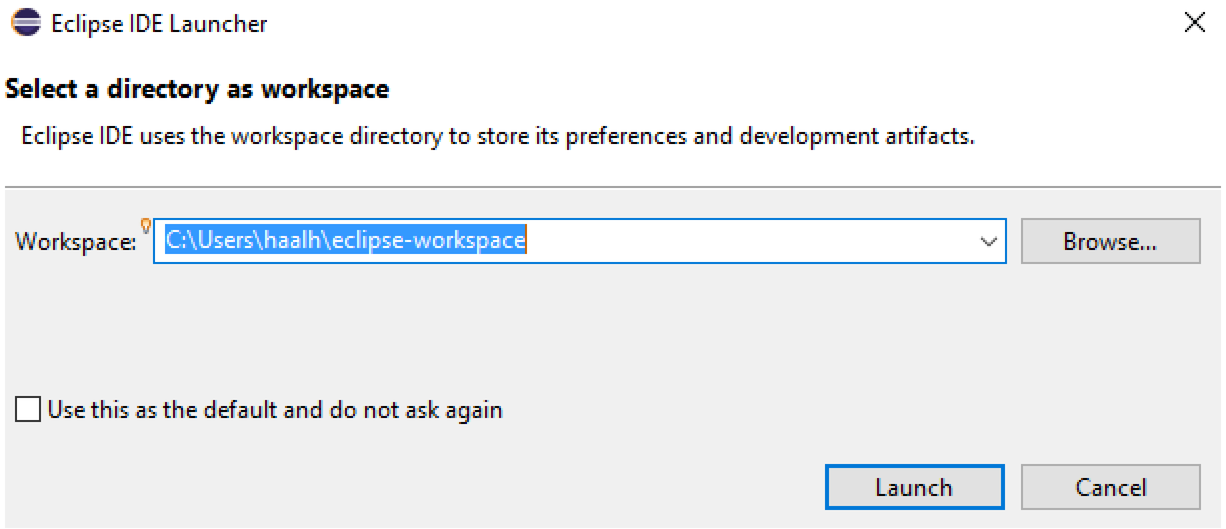
2. **WYSIWYM (What You See Is What You Mean):** The user writes the contents in a structured way, marking the content according to its meaning, its significance in the document, and leaves its final appearance up to one or more separate style sheets. In essence, it aims to accurately display the contents being conveyed, rather than the actual formatting associated with it
   + : Total freedom, separating content layer from presentation layer, scalability
   - : Time consuming, requires knowledge

How to build web sites

- We will use WHSIWYM
- No need for IDE, we can use any text editor (Notepad)
- Why use IDE? Intellisense, project structure, …etc
- Good free IDE: Eclipse IDE

https://www.eclipse.org/downloads/download.php?file=/technology/epp/downloads/release/2022-03/R/eclipse-php-2022-03-R-win32-x86_64.zip

Eclipse IDE



Eclipse IDE Launcher

Select a directory as workspace

Eclipse IDE uses the workspace directory to store its preferences and development artifacts.

Workspace: C:\Users\haalh\eclipse-workspace

☐ Use this as the default and do not ask again

Deuxième partie

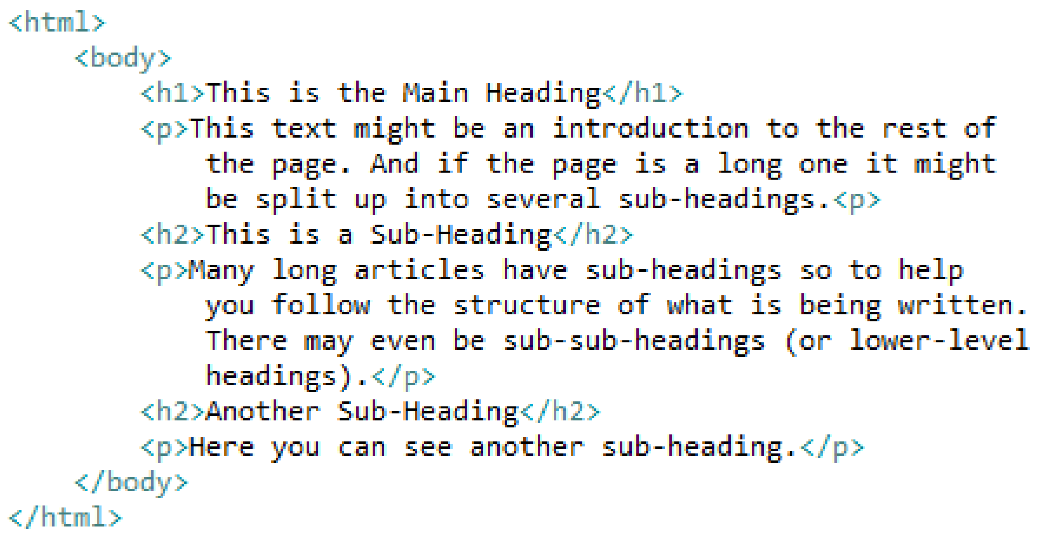
HyperText Markup Language (HTML)

The HTML

HTML Topics :

- Tag & document structure
- Text formatting
- Page formatting
- Lists
- Tag attributes
- Hyperlinks
- Images
- Colors
- Tables

HTML Tags and Elements



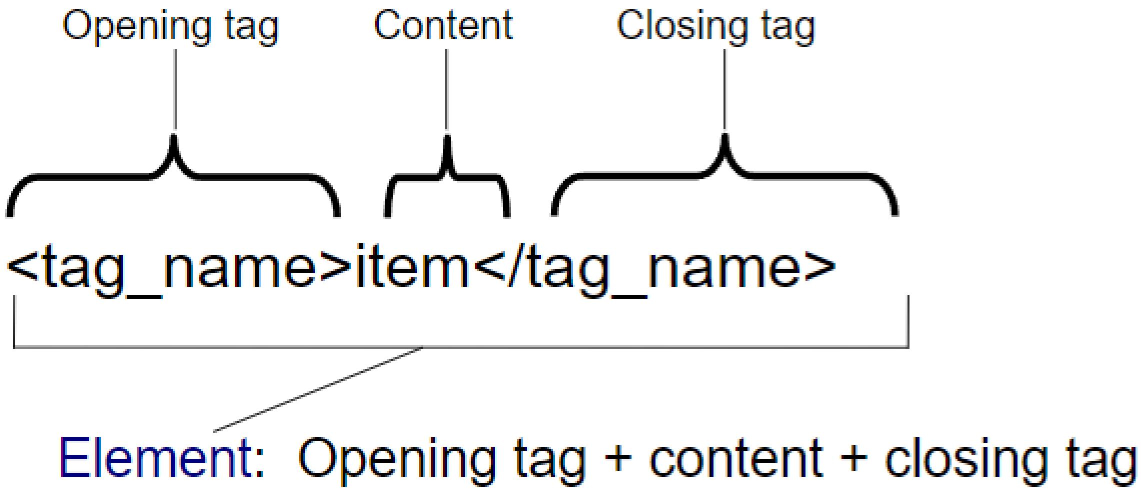
```
<html>
    <body>
        <h1>This is the Main Heading</h1>
        <p>This text might be an introduction to the rest of
            the page. And if the page is a long one it might
            be split up into several sub-headings.<p>
        <h2>This is a Sub-Heading</h2>
        <p>Many long articles have sub-headings so to help
            you follow the structure of what is being written.
            There may even be sub-sub-headings (or lower-level
            headings).</p>
        <h2>Another Sub-Heading</h2>
        <p>Here you can see another sub-heading.</p>
    </body>
</html>
```

- The HTML code (in teal) is made up of characters that live inside angled brackets — these are called HTML **elements**.
- **Elements** are usually made up of two **tags**: an opening tag and a closing tag. (The closing tag has an extra forward slash in it.)
- Each HTML element tells the browser something about the information that sits between its opening and closing tags.

HTML Tags and Elements

Tag: code that instructs the Web browser how to format an item

General format:



Element: Opening tag + content + closing tag

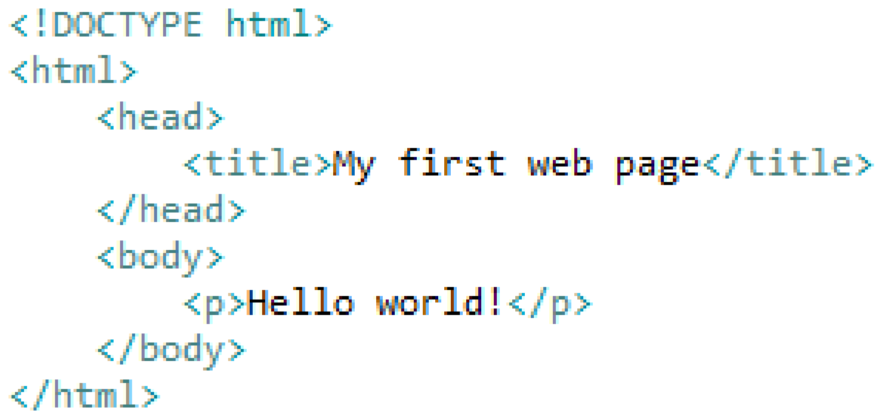
Examples:

- `<p></p>` The p stands for paragraph
- `<h1></h1>` The h1 stands for the main header (main title)

HTML Document Structure

- HTML documents have two sections:
  - Header
    - Contains information about the document
    - The <head> … </head> element defines the head
  - Body
    - Contains the actual document content
    - The <body> … </body> element defines the body
- Standard HTML tags are not case sensitive
  - <HEAD> is the same as <Head>
  - Content within the tag IS case sensitive

General HTML5 Document Structure



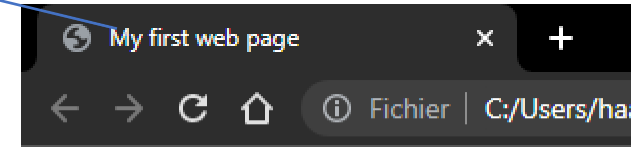
```
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
        <p>Hello world!</p>
    </body>
</html>
```

- The HTML <!DOCTYPE> tag is the very first line in the HTML document
- It tells the browser what version of HTML the document is written so that the browser knows what to expect
- This tag is also commonly referred to as the <!DOCTYPE> element

Title Tag

- `<title> … </title>`
  - ❑ Specifies the browser window title bar text
  - ❑ Must be in the head of the document
  - ❑ Search engines pick this up – so select your title wisely !

```
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
        <p>Hello world!</p>
    </body>
</html>
```



My first web page

Fichier | C:/Users/ha

Hello world!

HTML Document Structure : Revision

An HTML document:

❑ Contains elements to define a Web page

❑ Encloses almost everything within `<html>` tags

❑ Specifies the browser window title text within the `<title>` tags

❑ Specifies Web page content within the `<body>` tags

HTML Document Structure : Revision

An HTML document's title:

□ Is specified within the header section

□ Specifies the text that appears inside the Web page

□ Specifies the text that appears in the browser title bar

□ Is optional

The HTML

HTML Topics :

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- Tag attributes
- Hyperlinks
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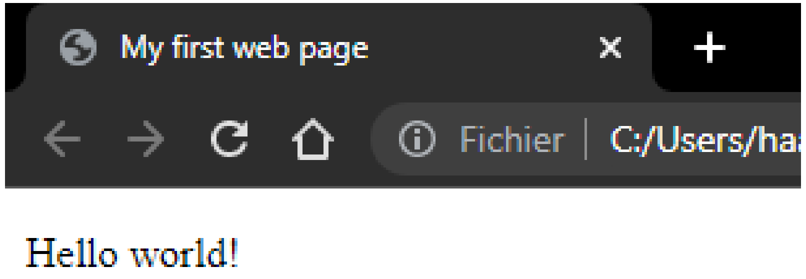
- Colors
- Tables

Text formatting



Hello world!

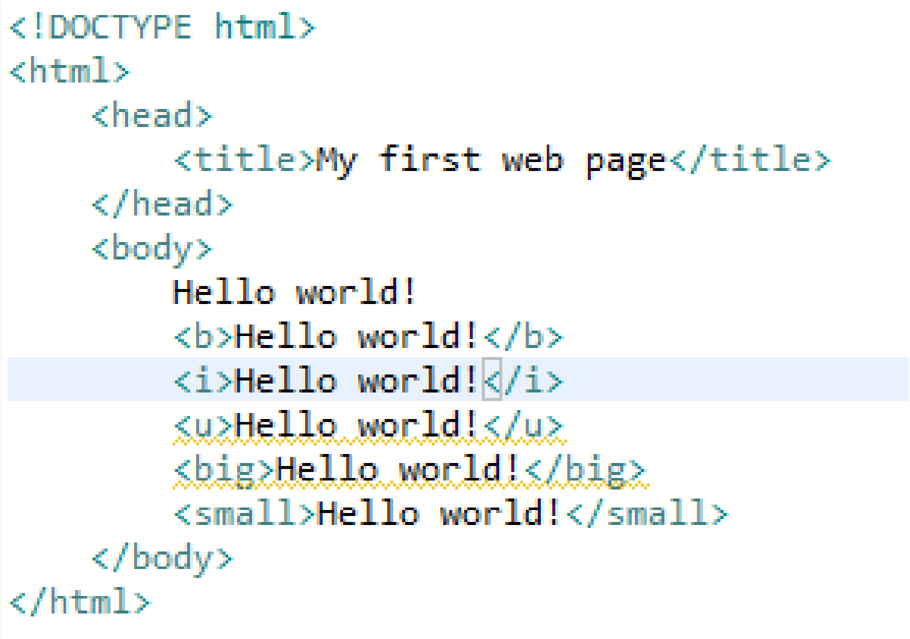
- By default, browsers display HTML text in a left-aligned, black, 12-point normal Times Roman font
- We will study how to change this in the CSS section later

Text formatting

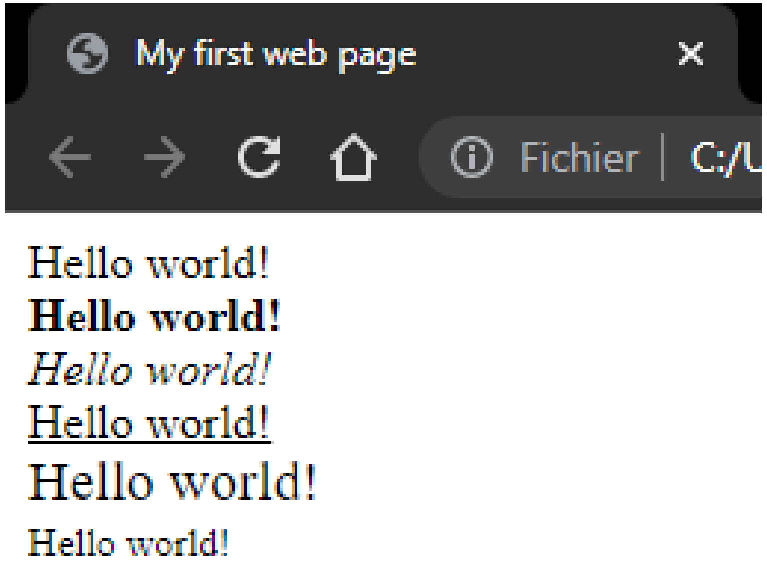
Tag	Description	Example
<b> <strong>	Bold font	<b>Hello world!</b>
<i> <em>	Italic font	<i>Hello world!</i>
<sup>	Superscript	<sup>Hello world!</sup>
<s>	Center line	<s>Hello world!</s>
<sub>	Subscript	<sub>Hello World!</sub>
<u>	Underlined font	<u>Hello world!</u>
<big>	Bigger font size	<big>Hello world!</big>
<small>	Smaller font size	<small>Hello world!</small>

- <u>, <big> and <small> have been removed from HTML5 (at least as it now stands) Browsers will continue to support this for the foreseeable future, however.
- Modern thinking says to control most formatting using styles, rather than format tags like <b>, <i>, etc.

Text formatting



```
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
        Hello world!
        <b>Hello world!</b>
        <i>Hello world!</i>
        <u>Hello world!</u>
        <big>Hello world!</big>
        <small>Hello world!</small>
    </body>
</html>
```



Hello world!

Hello world!

Hello world!

Hello world!

Hello world!

Hello world!

Text formatting

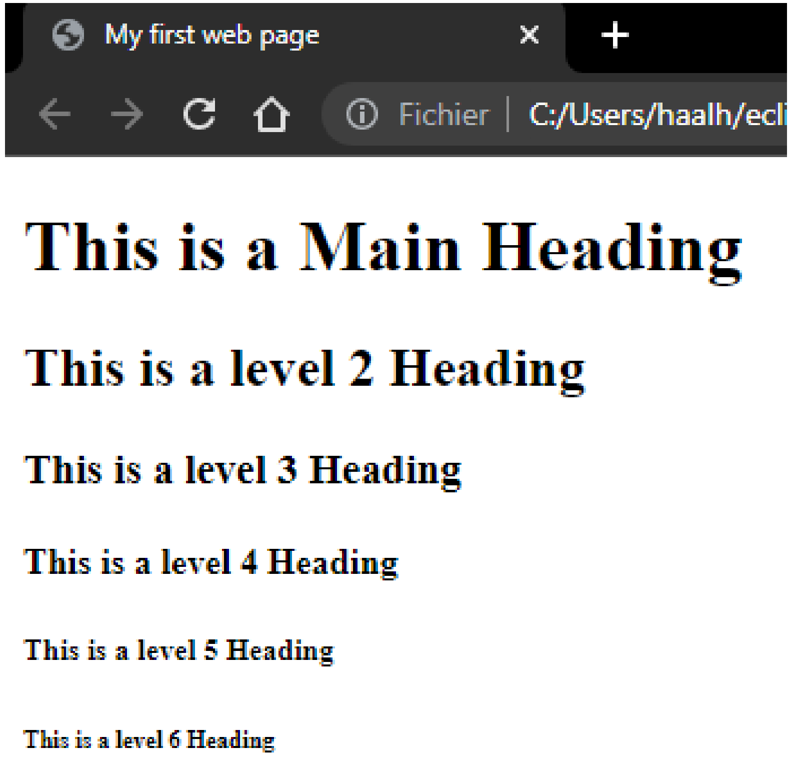
Formatting Text Using Headings

- HTML headings
  - ❑ Provide different font sizes and bolded text
  - ❑ Add white space before/after text
  - ❑ Used to format your Web page into sections
  - ❑ Modern design still requires using headings to section a page for vision impaired uses with screen readers.

Text formatting

```
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
        <h1>This is a Main Heading</h1>
        <h2>This is a level 2 Heading</h2>
        <h3>This is a level 3 Heading</h3>
        <h4>This is a level 4 Heading</h4>
        <h5>This is a level 5 Heading</h5>
        <h6>This is a level 6 Heading</h6>
    </body>
</html>
```

→



This is a Main Heading

This is a level 2 Heading

This is a level 3 Heading

This is a level 4 Heading

This is a level 5 Heading

This is a level 6 Heading

The HTML

HTML Topics :

- Tag & document structure
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- Tables

Page formatting

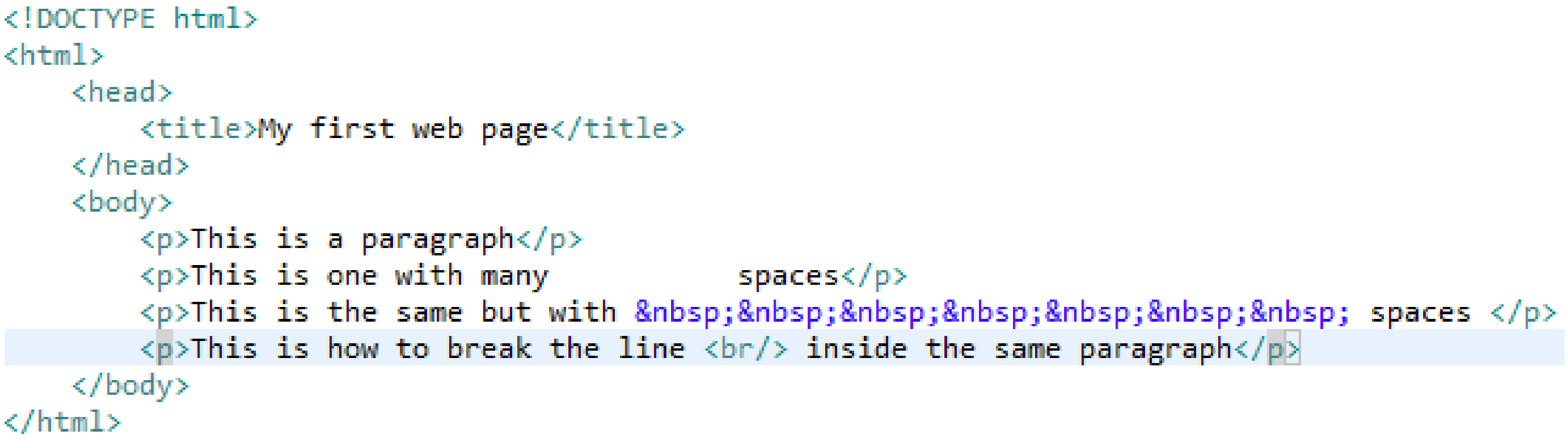
- Browsers ignore most white space: spaces, tabs and line breaks (hard returns) in HTML source code
- To create line breaks in Web pages, use paragraph and line break tags
  - ❑ Paragraph tag
    - Syntax: `<p>text_in_paragraph</p>`
    - Browser displays blank lines between the previous text and next text
  - ❑ Line Break tag
    - Syntax: `<br />`
    - One-sided tag, so make it self-closing by adding trailing backslash
      - Not required, but meets XHTML standard
    - Browser displays text that follows on the next line
  - ❑ Horizontal rule tag
    - Syntax: `<hr />`
    - One-sided tag, so make it self-closing by adding trailing backslash

Page formatting

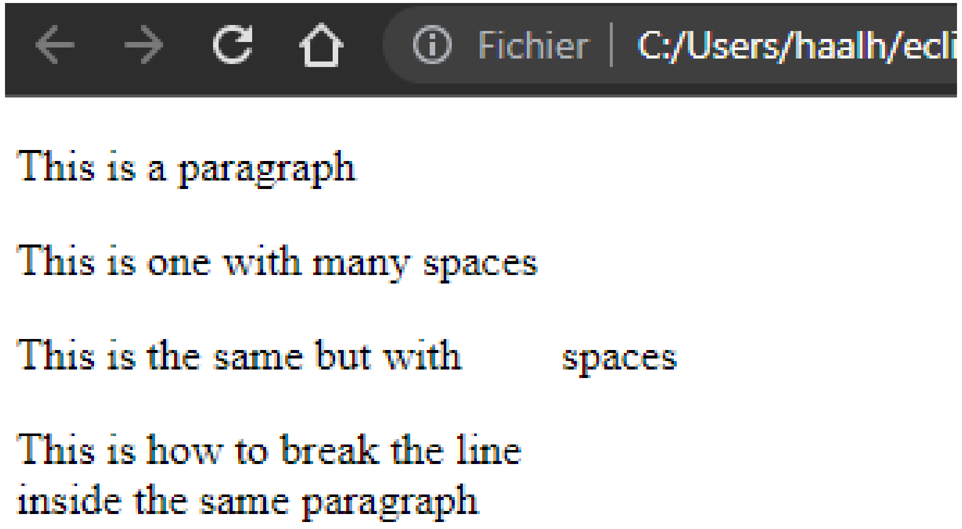
- To force spaces in a web page, use nonbreaking spaces: `&nbsp;`
  - ❑ The first occurrence of white space in the HTML page source will be interpreted as a space when displayed in a browser. If several white spaces occur in a row the remainder will be ignored - unless you use `&nbsp;`
  - ❑ Doesn’t allow the strings separated with this entity will not be separated and put into separate lines.

	The total cost for the items is 5 $
Ex: On smaller screens, the text can be cut into two lines	The total cost for the items is 5 $
Sometimes it can cut like this, to avoid it, use $nbsp;	The total cost for the items is 5 $

Page formatting



```
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
        <p>This is a paragraph</p>
        <p>This is one with many           spaces</p>
        <p>This is the same but with &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; spaces </p>
        <p>This is how to break the line <br/> inside the same paragraph</p>
    </body>
</html>
```



This is a paragraph

This is one with many spaces

This is the same but with   spaces

This is how to break the line
inside the same paragraph

Page formatting : key HTML entities

Name	HTML Entity	Result
Non-breaking space	&nbsp;	
Less than (<)	&lt;	<
Greater than (>)	&gt;	>
Ampersand (&)	&amp;	&
Euro	&euro;	€
Pound	&pound;	£
Double quotation mark (“)	&quot;	“
Single quotation mark (apostrophe) (‘)	&apos;	‘

Page formatting : Revision

Think Critically:

Is it better to use headings or other tags and paragraphs/line breaks to format text?

The HTML

HTML Topics :

- Tag & document structure
- Text formatting
- Page formatting
- <u>Lists</u>
- Tag attributes
- Hyperlinks
- Images
- Colors
- Tables

Web page lists

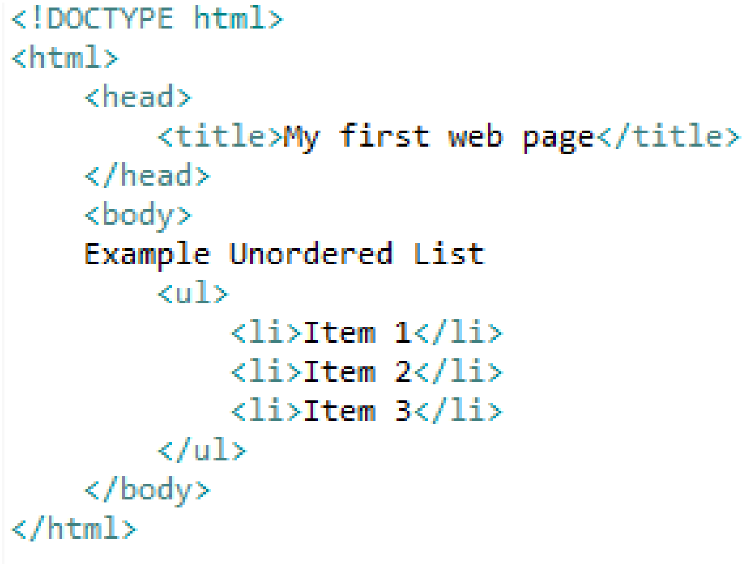
3 types of lists :

- Unordered lists (bulleted)
- Ordered lists
- Definition lists

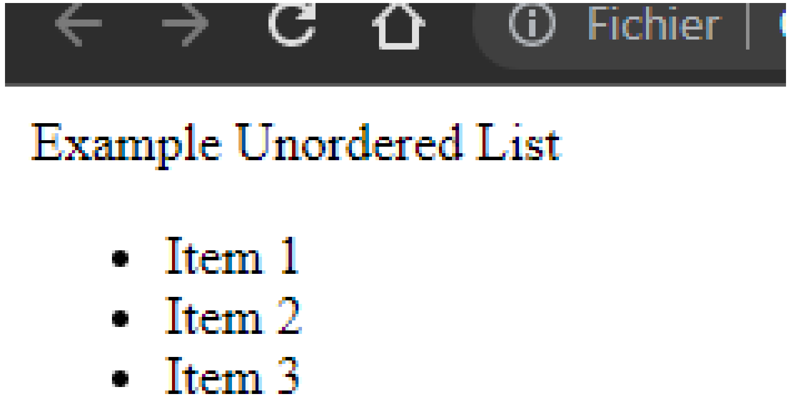
Web page lists

Unordered lists:

- The element `<ul> … </ul>` (unordered list) is used to create an unordered list
- The element `<li> … </li>` (list item) is used to create each item inside the list



```
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
    Example Unordered List
        <ul>
            <li>Item 1</li>
            <li>Item 2</li>
            <li>Item 3</li>
        </ul>
    </body>
</html>
```



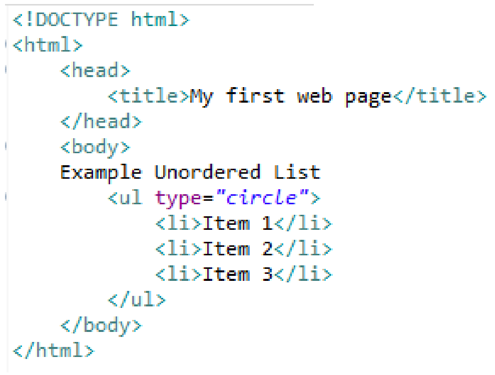
Example Unordered List

- Item 1
- Item 2
- Item 3

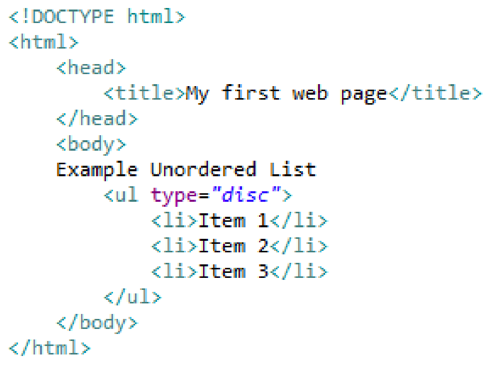
Web page lists

Unordered lists:

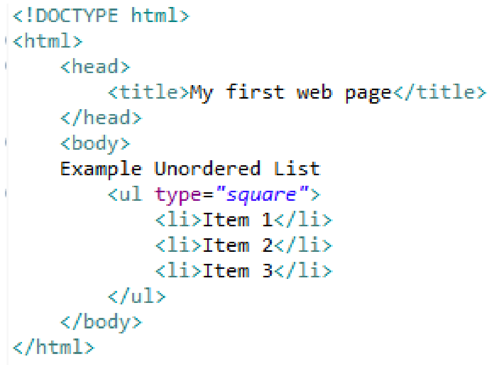
- The default type is the disc
- To change the type, use the type attribute : disc, circle, square, none



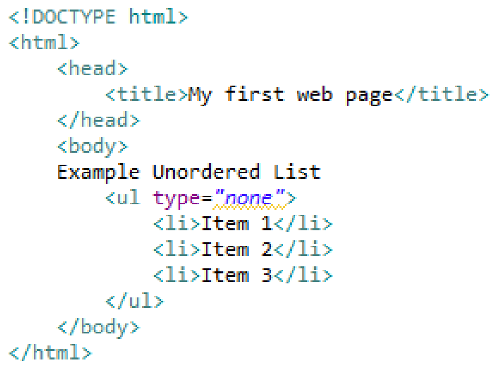
```
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
    Example Unordered List
        <ul type="circle">
            <li>Item 1</li>
            <li>Item 2</li>
            <li>Item 3</li>
        </ul>
    </body>
</html>
```



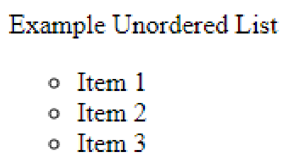
```
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
    Example Unordered List
        <ul type="disc">
            <li>Item 1</li>
            <li>Item 2</li>
            <li>Item 3</li>
        </ul>
    </body>
</html>
```



```
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
    Example Unordered List
        <ul type="square">
            <li>Item 1</li>
            <li>Item 2</li>
            <li>Item 3</li>
        </ul>
    </body>
</html>
```

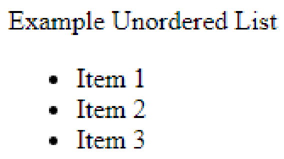


```
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
    Example Unordered List
        <ul type="none">
            <li>Item 1</li>
            <li>Item 2</li>
            <li>Item 3</li>
        </ul>
    </body>
</html>
```



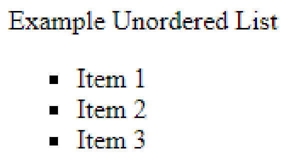
Example Unordered List

○ Item 1
○ Item 2
○ Item 3



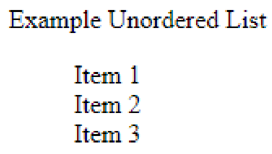
Example Unordered List

● Item 1
● Item 2
● Item 3



Example Unordered List

■ Item 1
■ Item 2
■ Item 3



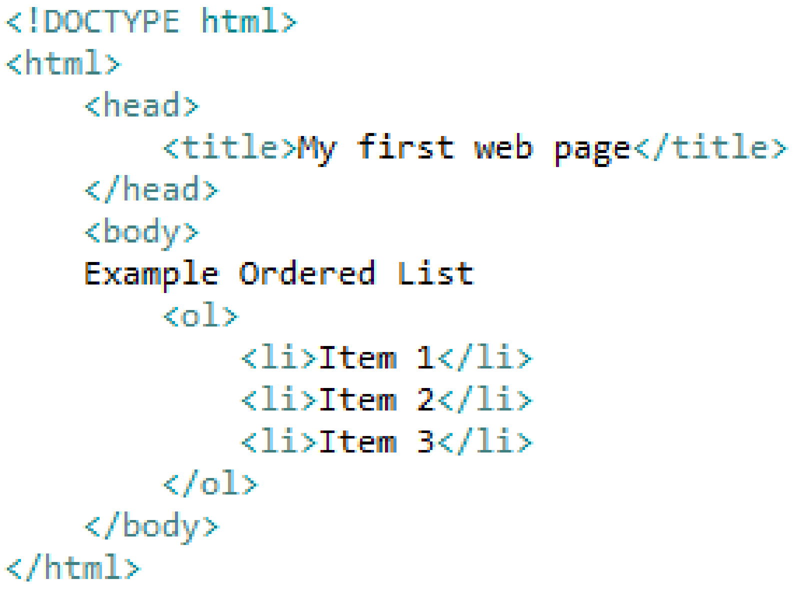
Example Unordered List

Item 1
Item 2
Item 3

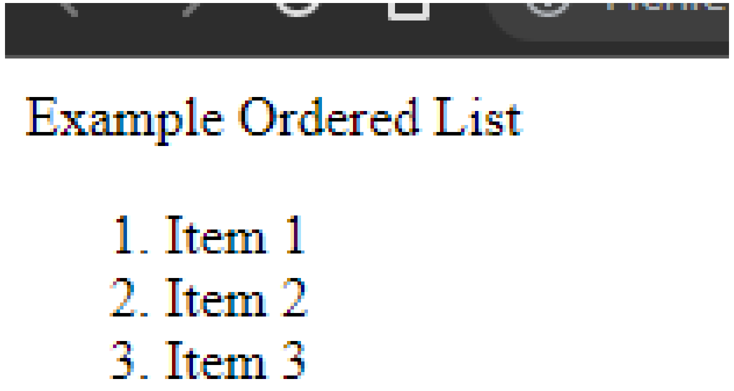
Web page lists

Ordered lists:

- The element `<ol> … </ol>` (ordered list) is used to create an ordered list
- The element `<li> … </li>` (list item) is used to create each element inside the list



```
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
    Example Ordered List
        <ol>
            <li>Item 1</li>
            <li>Item 2</li>
            <li>Item 3</li>
        </ol>
    </body>
</html>
```



Example Ordered List

1. Item 1
2. Item 2
3. Item 3

Web page lists

Ordered lists:

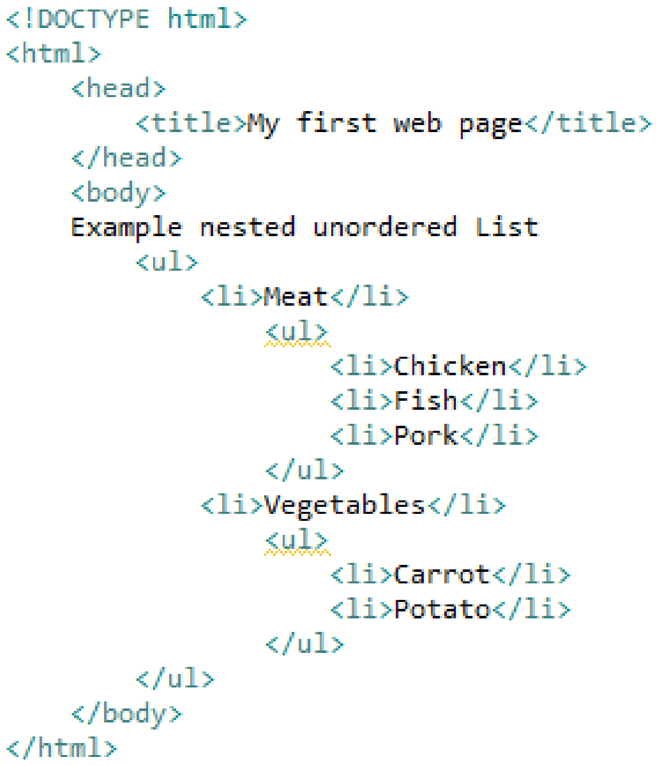
- The default type is “1”

Type	Numbering style	Result
1	Arabic numbers	1, 2, 3, …
a	Lower alpha	a, b, c, …
A	Upper alpha	A, B, C, …
i	Lower roman	i, ii, iii, …
I	Upper roman	I, II, III, …

Web page lists

Nested lists:

- We can create nested lists
- Example of a nested unordered list :

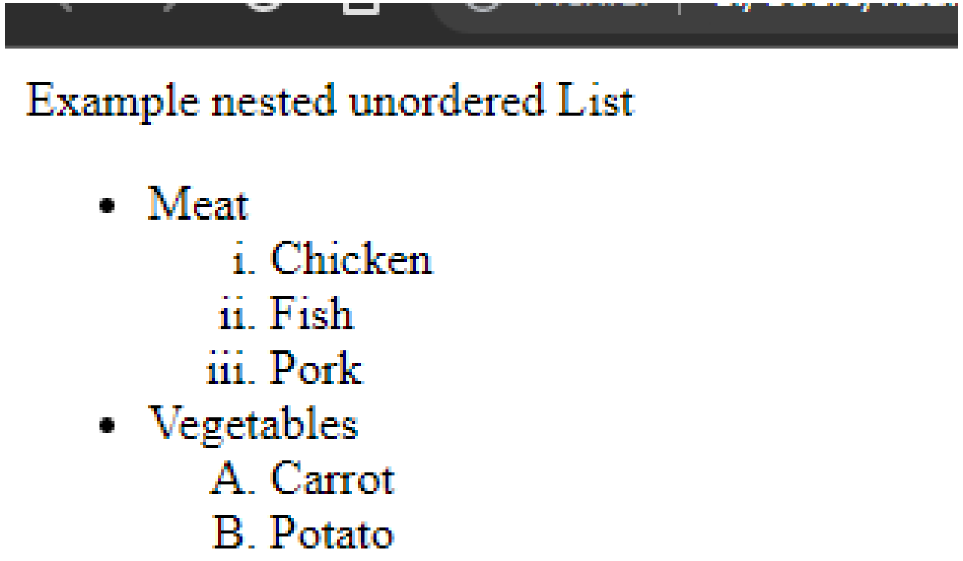


```html
<!DOCTYPE html>
<html>
    <head>
        <title>My first web page</title>
    </head>
    <body>
    Example nested unordered List
        <ul>
            <li>Meat</li>
                <ul>
                    <li>Chicken</li>
                    <li>Fish</li>
                    <li>Pork</li>
                </ul>
            <li>Vegetables</li>
                <ul>
                    <li>Carrot</li>
                    <li>Potato</li>
                </ul>
        </ul>
    </body>
</html>
```

Web page lists

Nested lists:

- We can create mixed nested lists
- Example of a nested mixed list :



Example nested unordered List

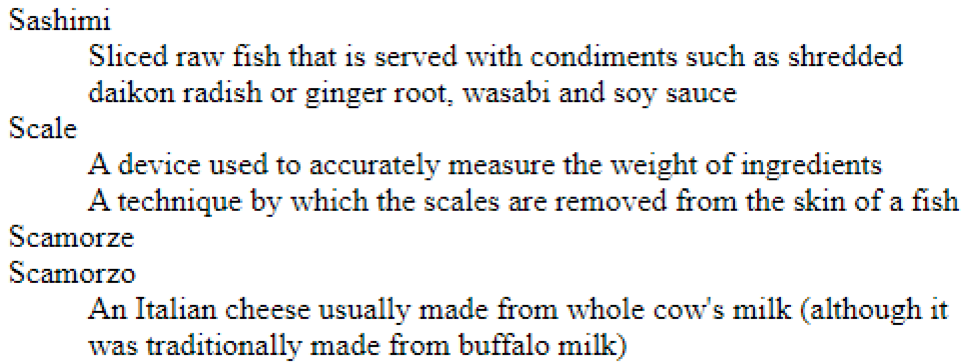
- Meat
    - i. Chicken
    - ii. Fish
    - iii. Pork
- Vegetables
    - A. Carrot
    - B. Potato

Web page lists

Definition lists:

- Usually consists of a series of terms and their definitions
- The element `<dl> … </dl>` is used to create a definition list
- The element `<dt> … </dt>` is used to contain the term being defined
- The element `<dd> … </dd>` is used to contain the definition

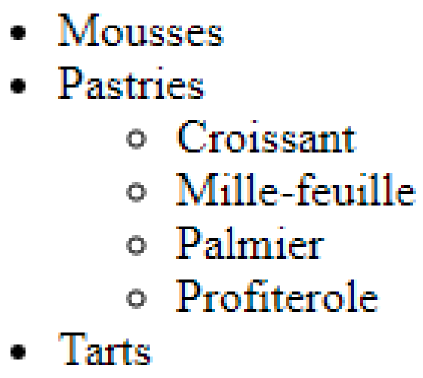
```
<dl>
    <dt>Sashimi</dt>
    <dd>Sliced raw fish that is served with
    condiments such as shredded daikon radish or
    ginger root, wasabi and soy sauce</dd>
    <dt>Scale</dt>
    <dd>A device used to accurately measure the
    weight of ingredients</dd>
    <dd>A technique by which the scales are removed
    from the skin of a fish</dd>
    <dt>Scamorze</dt>
    <dt>Scamorzo</dt>
    <dd>An Italian cheese usually made from whole
    cow's milk (although it was traditionally made
    from buffalo milk)</dd>
</dl>
```



```
Sashimi
        Sliced raw fish that is served with condiments such as shredded
        daikon radish or ginger root, wasabi and soy sauce
Scale
        A device used to accurately measure the weight of ingredients
        A technique by which the scales are removed from the skin of a fish
Scamorze
Scamorzo
        An Italian cheese usually made from whole cow's milk (although it
        was traditionally made from buffalo milk)
```

Web page lists : Revision 1

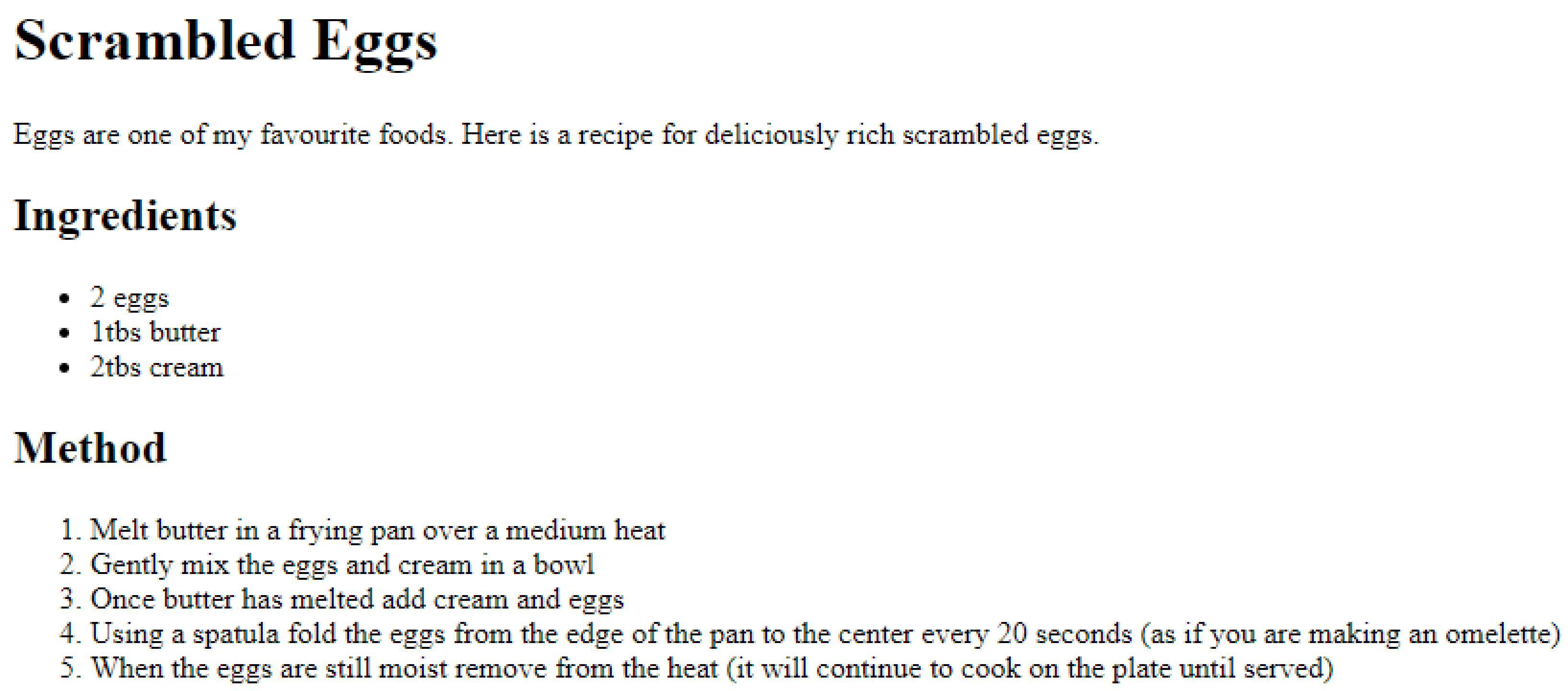
Create the HTML files for the following web page:



- Mousses
- Pastries
  - Croissant
  - Mille-feuille
  - Palmier
  - Profiterole
- Tarts

Web page lists : Revision 2

Create the HTML files for the following web page:



Scrambled Eggs

Eggs are one of my favourite foods. Here is a recipe for deliciously rich scrambled eggs.

Ingredients

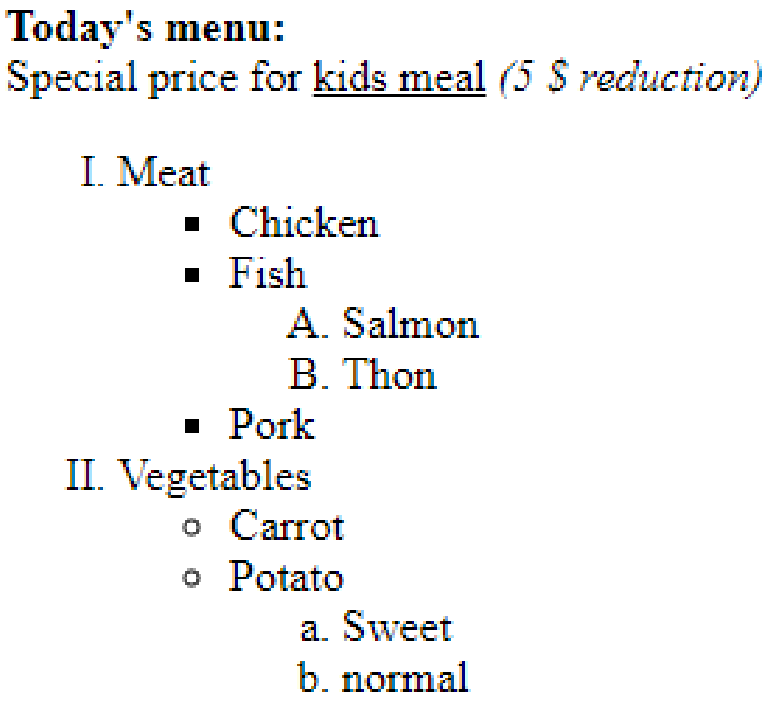
- 2 eggs
- 1tbs butter
- 2tbs cream

Method

1. Melt butter in a frying pan over a medium heat
2. Gently mix the eggs and cream in a bowl
3. Once butter has melted add cream and eggs
4. Using a spatula fold the eggs from the edge of the pan to the center every 20 seconds (as if you are making an omelette)
5. When the eggs are still moist remove from the heat (it will continue to cook on the plate until served)

Web page lists : Revision 3

Create the HTML files for the following web page:



Today's menu:
Special price for kids meal *(5 $ reduction)*

I. Meat
   ▪ Chicken
   ▪ Fish
      A. Salmon
      B. Thon
   ▪ Pork
II. Vegetables
   ○ Carrot
   ○ Potato
      a. Sweet
      b. normal

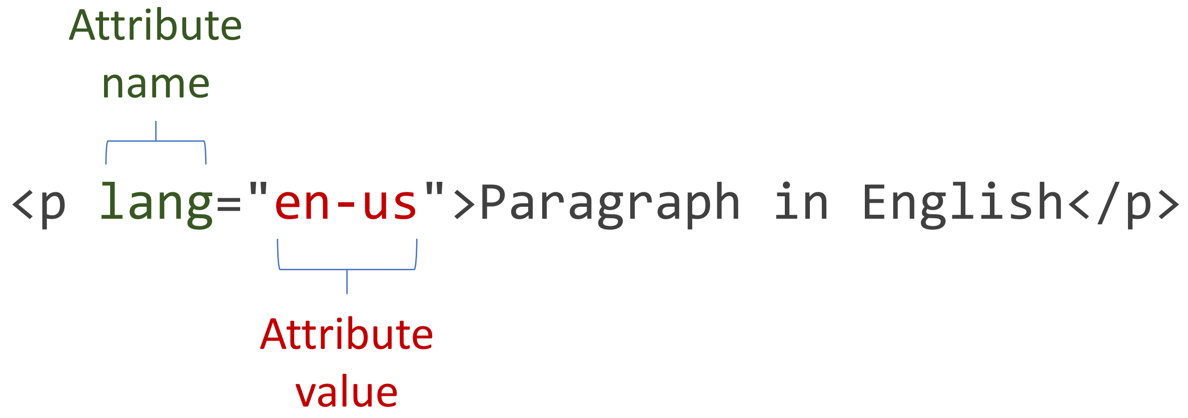
The HTML

HTML Topics :

- Tag & document structure
- Text formatting
- Page formatting
- Lists
- Tag attributes
- Hyperlinks
- Images
- Colors
- Tables

Tag attributes

Attributes provide additional information about the contents of an element. They appear on the opening tag of the element and are made up of two parts: a name and a value, separated by an equals sign.



Attribute name

```
<p lang="en-us">Paragraph in English</p>
```

Attribute value

The attribute name indicates what kind of extra information you are supplying about the element's content. It should be written in lowercase.

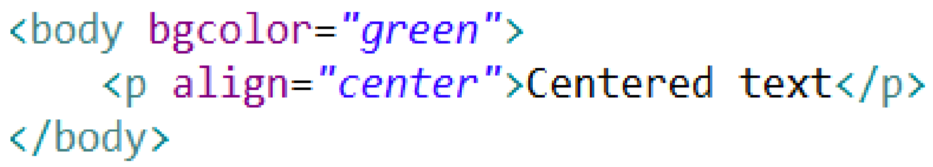
The value is the information or setting for the attribute. It should be placed in double quotes. Different attributes can have different values

Here an attribute called lang is used to indicate the language used in this element. The value of this attribute on this page specifies it is in US English

Tag attributes

Examples:

- <body> tag has a bgcolor attribute that allows you to specify the page body background color
- heading and paragraph tags have an align attribute that allows you to control text alignment



```
<body bgcolor="green">
    <p align="center">Centered text</p>
</body>
```

The majority of attributes can only be used on certain elements, although a few attributes (such as lang) can appear on any element

Most attribute values are either pre-defined or follow a stipulated format

The value of the lang attribute is an abbreviated way of specifying which language is used inside the element that all browsers understand

The HTML

HTML Topics :

- Tag & document structure
- Text formatting
- Page formatting
- Lists
- Tag attributes
- Hyperlinks
- Images
- Colors
- Tables

Hyperlinks

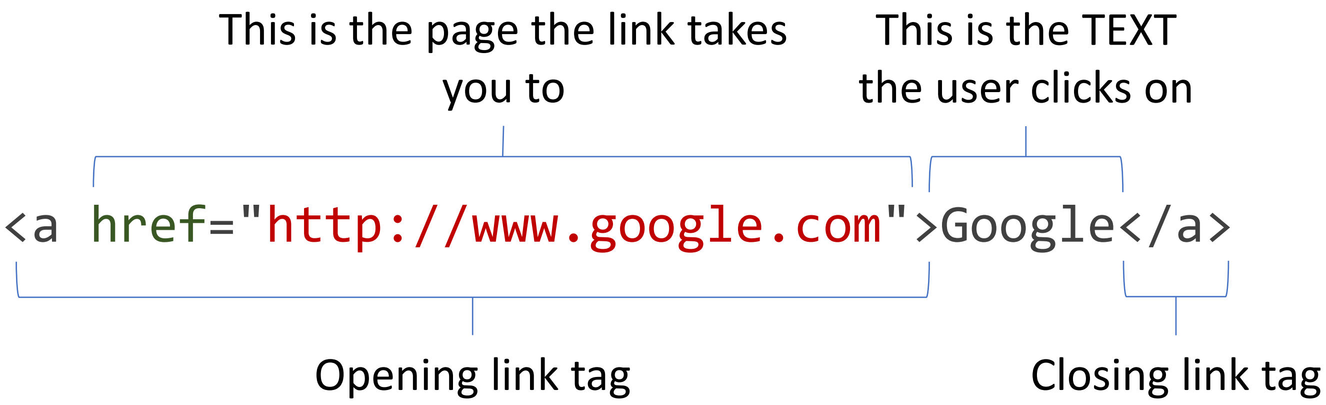
Hyperlinks : the defining feature of the web because they allow you to move from one web page to another — enabling the very idea of browsing or surfing.

You will commonly come across the following types of links:

- Links from one website to another
- Links from one page to another on the same website
- Links from one part of a web page to another part of the same page
    - Useful for LONG web pages
- Links that open in a new browser window
- Links to a document or a file (Word, PowerPoint, …etc.)
- Links that start up your email program and address a new email to someone

Hyperlinks : General structure

- Links are created using the `<a>` element
- Users can click on anything between the opening `<a>` tag and the closing `</a>` tag
- You specify which page you want to link to using the href attribute



This is the page the link takes you to

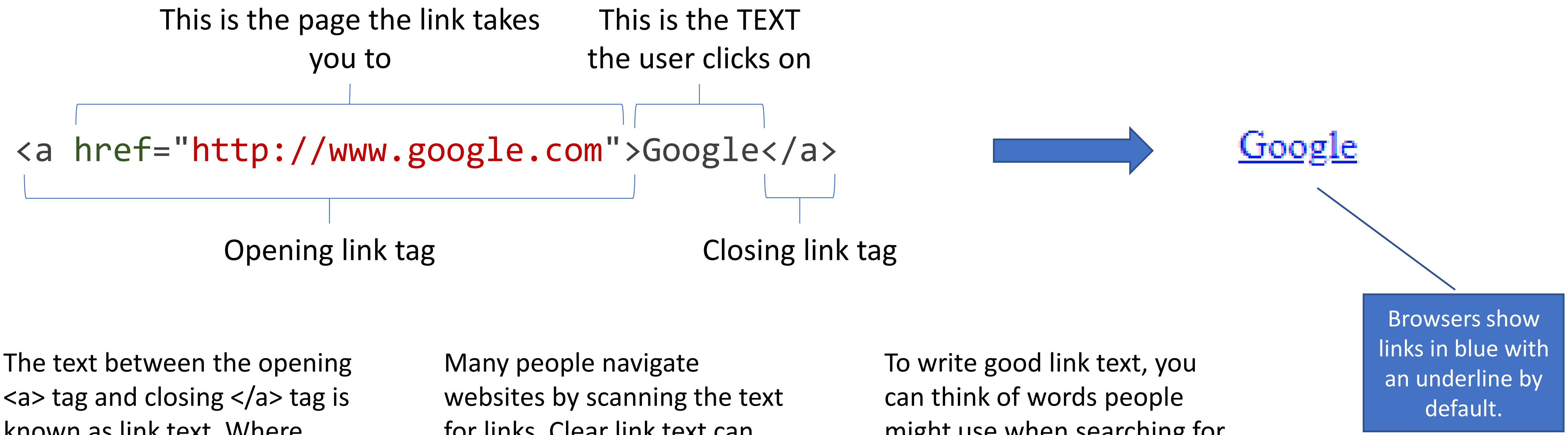
This is the TEXT the user clicks on

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

Opening link tag

Closing link tag

Hyperlinks : General structure



This is the page the link takes you to

This is the TEXT the user clicks on

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

Opening link tag

Closing link tag

Browsers show links in blue with an underline by default.

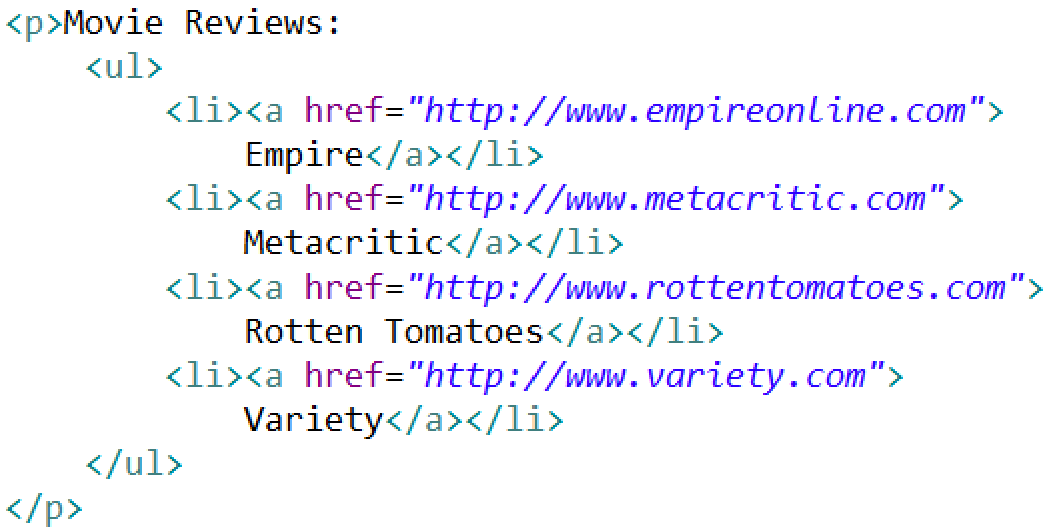
The text between the opening <a> tag and closing </a> tag is known as link text. Where possible, your link text should explain where visitors will be taken if they click on it (rather than just saying "click here")

Many people navigate websites by scanning the text for links. Clear link text can help visitors find what they want. This will give them a more positive impression of your site and may encourage them to visit it for longer. (It also helps people using screen reader software.)

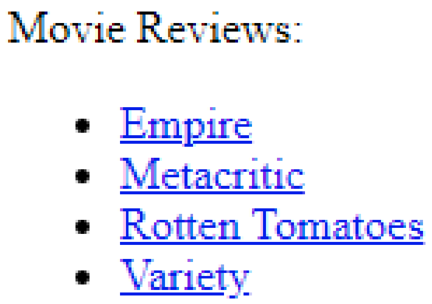
To write good link text, you can think of words people might use when searching for the page that you are linking to. (For example, rather than write "places to stay" you could use something more specific such as "hotels in New York.")

Hyperlinks : Linking to other sites

- When you link to a different website, the value of the href attribute will be the full web address for the site, which is known as an absolute URL
- **URL:** Uniform Resource Locator. Every web page has its own URL. This is the web address that you would type into a browser if you wanted to visit that specific page
- An **Absolute URL** starts with the domain name for that site, and can be followed by the path to a specific page. If no page is specified, the site will display the homepage



```
<p>Movie Reviews:
    <ul>
        <li><a href="http://www.empireonline.com">
            Empire</a></li>
        <li><a href="http://www.metacritic.com">
            Metacritic</a></li>
        <li><a href="http://www.rottentomatoes.com">
            Rotten Tomatoes</a></li>
        <li><a href="http://www.variety.com">
            Variety</a></li>
    </ul>
</p>
```

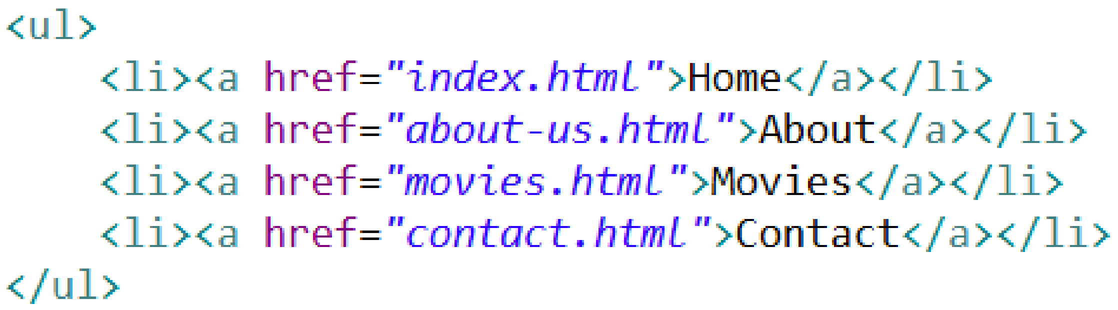


Movie Reviews:

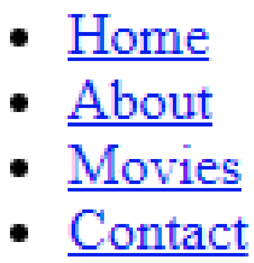
- Empire
- Metacritic
- Rotten Tomatoes
- Variety

Hyperlinks : Linking to other pages on the same site

- **Relative URL:** When linking to other pages within the same site, you can use relative URLs. These are like a shorthand version of absolute URLs because you do not need to specify the domain name
- If all the pages of the site are in the same folder, then the value of the href attribute is just the name of the file
- If you have different pages of a site in different folders, then you can use a slightly more complex syntax to indicate where the page is in relation to the current page



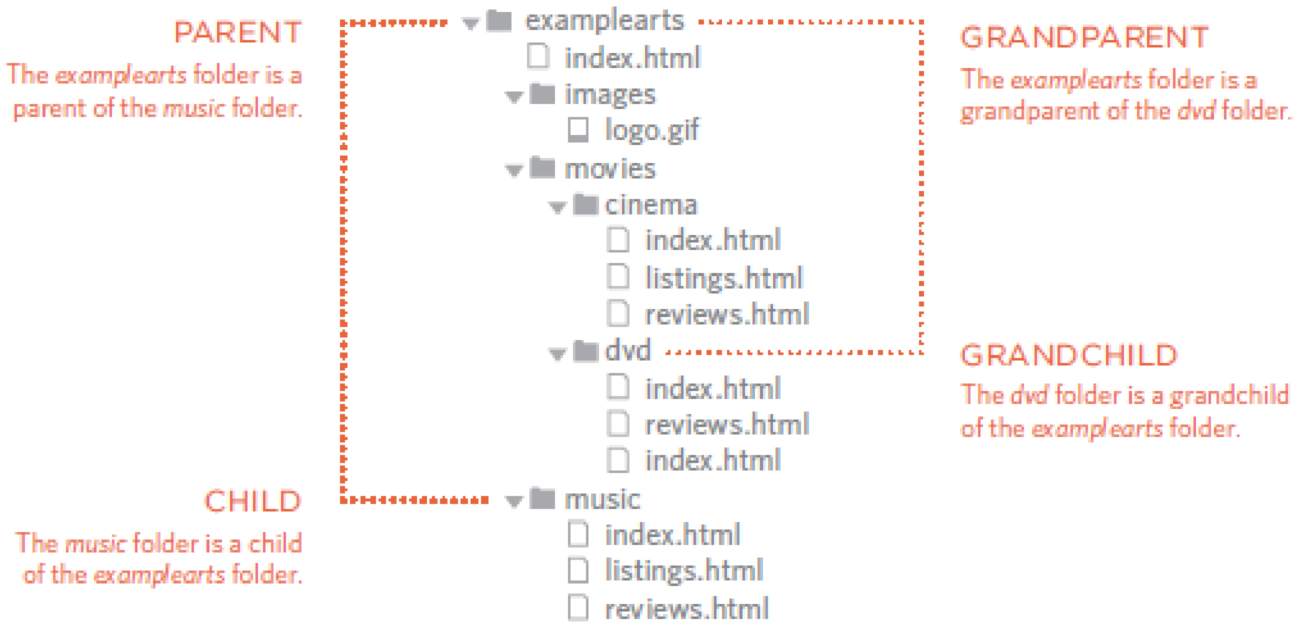
```
<ul>
    <li><a href="index.html">Home</a></li>
    <li><a href="about-us.html">About</a></li>
    <li><a href="movies.html">Movies</a></li>
    <li><a href="contact.html">Contact</a></li>
</ul>
```



- Home
- About
- Movies
- Contact

Hyperlinks : Directory structure

- On larger websites it's a good idea to organize your code by placing the pages for each different section of the site into a new folder.
- Folders on a website are sometimes referred to as **directories**
- **Directory Structure:** a diagram that shows the files and folders structure of a web site



```
examplearts
  index.html
  images
    logo.gif
  movies
    cinema
      index.html
      listings.html
      reviews.html
    dvd
      index.html
      reviews.html
      index.html
  music
    index.html
    listings.html
    reviews.html
```

PARENT

The *examplearts* folder is a parent of the *music* folder.

CHILD

The *music* folder is a child of the *examplearts* folder.

GRANDPARENT

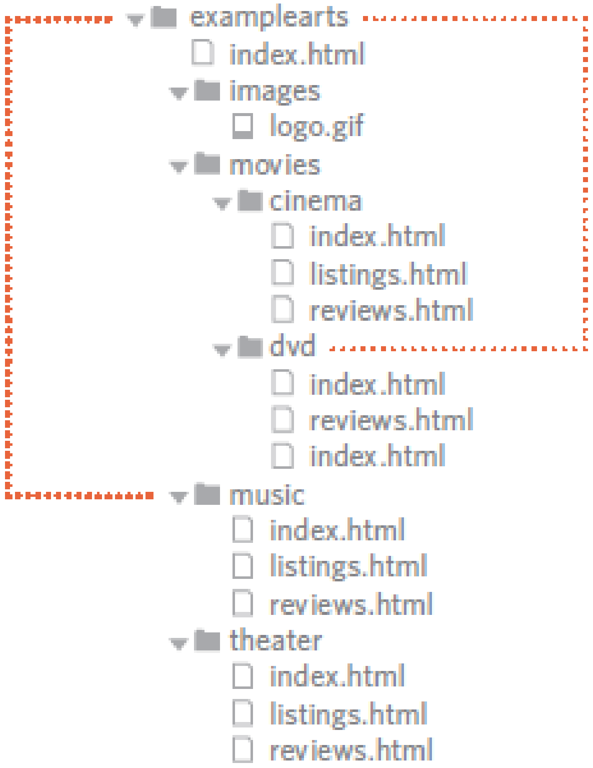
The *examplearts* folder is a grandparent of the *dvd* folder.

GRANDCHILD

The *dvd* folder is a grandchild of the *examplearts* folder.

Hyperlinks : Directory structure

- The top-level folder is known as the root folder. (In this example, the root folder is called examplearts.)
- The root folder contains all of the other files and folders for a website.
- Each section of the site is placed in a separate folder; this helps organize the files.



```
examplearts
    index.html
    images
        logo.gif
    movies
        cinema
            index.html
            listings.html
            reviews.html
        dvd
            index.html
            reviews.html
            index.html
    music
        index.html
        listings.html
        reviews.html
    theater
        index.html
        listings.html
        reviews.html
```

PARENT

The *examplearts* folder is a parent of the *music* folder.

CHILD

The *music* folder is a child of the *examplearts* folder.

GRANDPARENT

The *examplearts* folder is a grandparent of the *dvd* folder.

GRANDCHILD

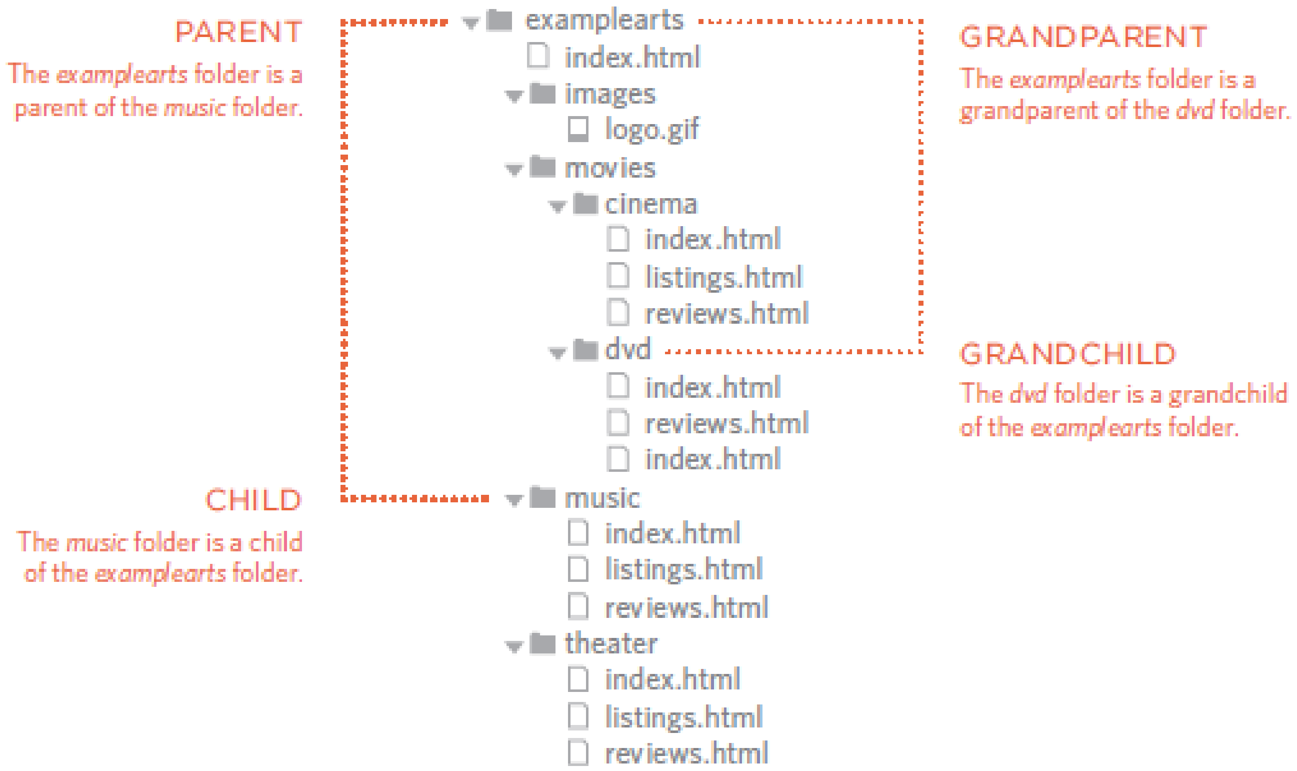
The *dvd* folder is a grandchild of the *examplearts* folder.

Hyperlinks : Directory structure

- The relationship between files and folders on a website is described using the same terminology as a family tree.

- In the diagram on the right, you can see some relationships have been drawn in.

- The *examplearts* folder is a parent of the *movies*, *music* and *theater* folders. And the the *movies*, *music* and *theater* folders are children of the *examplearts* folder.



PARENT

The *examplearts* folder is a parent of the *music* folder.

CHILD

The *music* folder is a child of the *examplearts* folder.

```
examplearts
    index.html
    images
        logo.gif
    movies
        cinema
            index.html
            listings.html
            reviews.html
        dvd
            index.html
            reviews.html
            index.html
    music
        index.html
        listings.html
        reviews.html
    theater
        index.html
        listings.html
        reviews.html
```

GRANDPARENT

The *examplearts* folder is a grandparent of the *dvd* folder.

GRANDCHILD

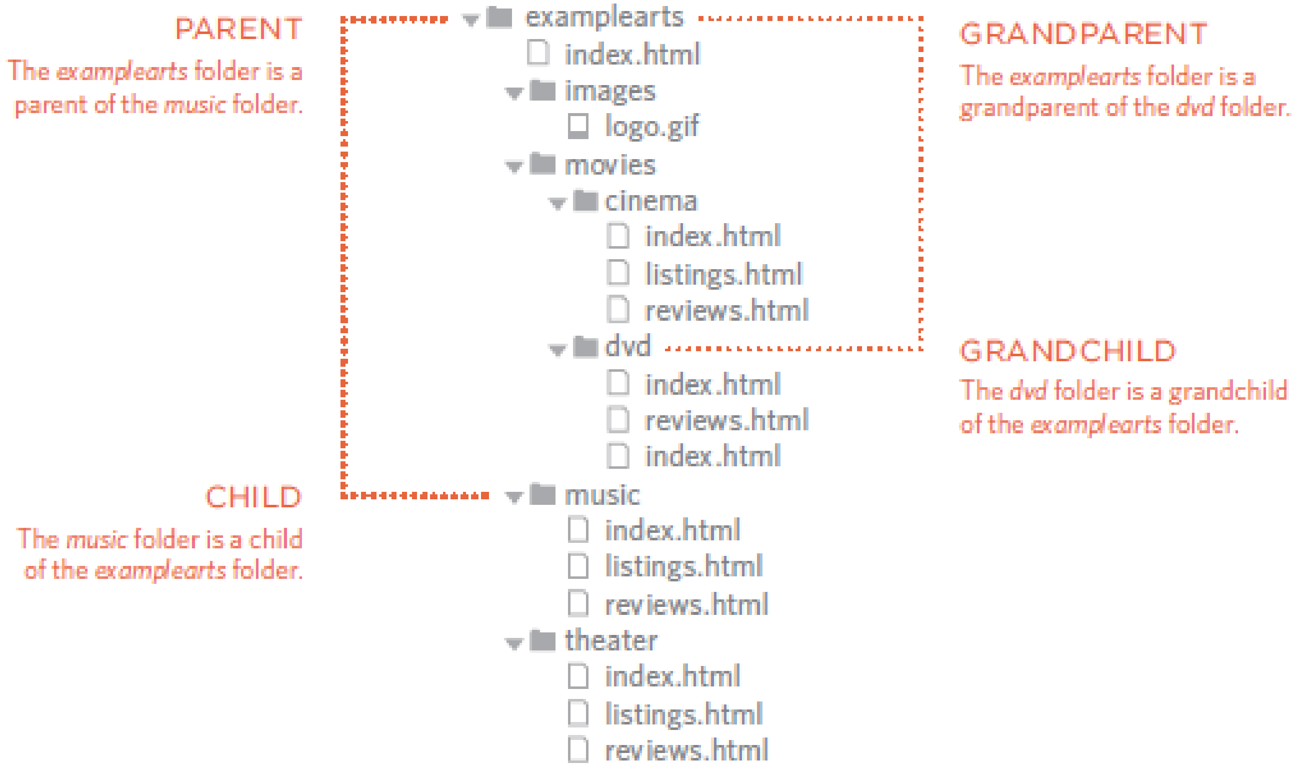
The *dvd* folder is a grandchild of the *examplearts* folder.

Hyperlinks : Directory structure

- The main homepage of a site written in HTML (and the homepages of each section in a child folder) is called *index.html*

- Web servers are usually set up to return the *index.html* file if no file name is specified.

- Examples:
  - if you enter:
    examplearts.com
    it will return :
    examplearts.com/index .html
  - examplearts.com/music
    will return :
    examplearts.com/music/index.html



PARENT

The *examplearts* folder is a parent of the *music* folder.

CHILD

The *music* folder is a child of the *examplearts* folder.

GRANDPARENT

The *examplearts* folder is a grandparent of the *dvd* folder.

GRANDCHILD

The *dvd* folder is a grandchild of the *examplearts* folder.

```
examplearts
  index.html
  images
    logo.gif
  movies
    cinema
      index.html
      listings.html
      reviews.html
    dvd
      index.html
      reviews.html
      index.html
  music
    index.html
    listings.html
    reviews.html
  theater
    index.html
    listings.html
    reviews.html
```

Hyperlinks : Relative URLs

Relative link type	Example (From previous diagram)
Same Folder: To link to a file in the same folder, just use the file name. (Nothing else is needed.)	To link to music reviews from the music homepage: `<a href="reviews.html">Reviews</a>`
Child Folder: For a child folder, use the name of the child folder, followed by a forward slash, then the file name.	To link to music listings from the homepage: `<a href="music/listings.html">Listings</a>`
Grandchild Folder: Use the name of the child folder, followed by a forward slash, then the name of the grandchild folder, followed by another forward slash, then the file name.	To link to DVD reviews from the homepage: `<a href="movies/dvd/reviews.html">Reviews</a>`
Parent Folder: Use ../ to indicate the folder above the current one, then follow it with the file name.	To link to the homepage from the music reviews: `<a href="../index.html">Home</a>`
GrandParent Folder: Repeat the ../ to indicate that you want to go up two folders (rather than one), then follow it with the file name.	To link to the homepage from the DVD reviews: `<a href="../../index.html">Home</a>`

Hyperlinks : Linking to another part of the same page

- At the top of a long page you might want to add a list of contents that links to the corresponding sections lower down. Or you might want to add a link from part way down the page back to the top of it to save users from having to scroll back to the top

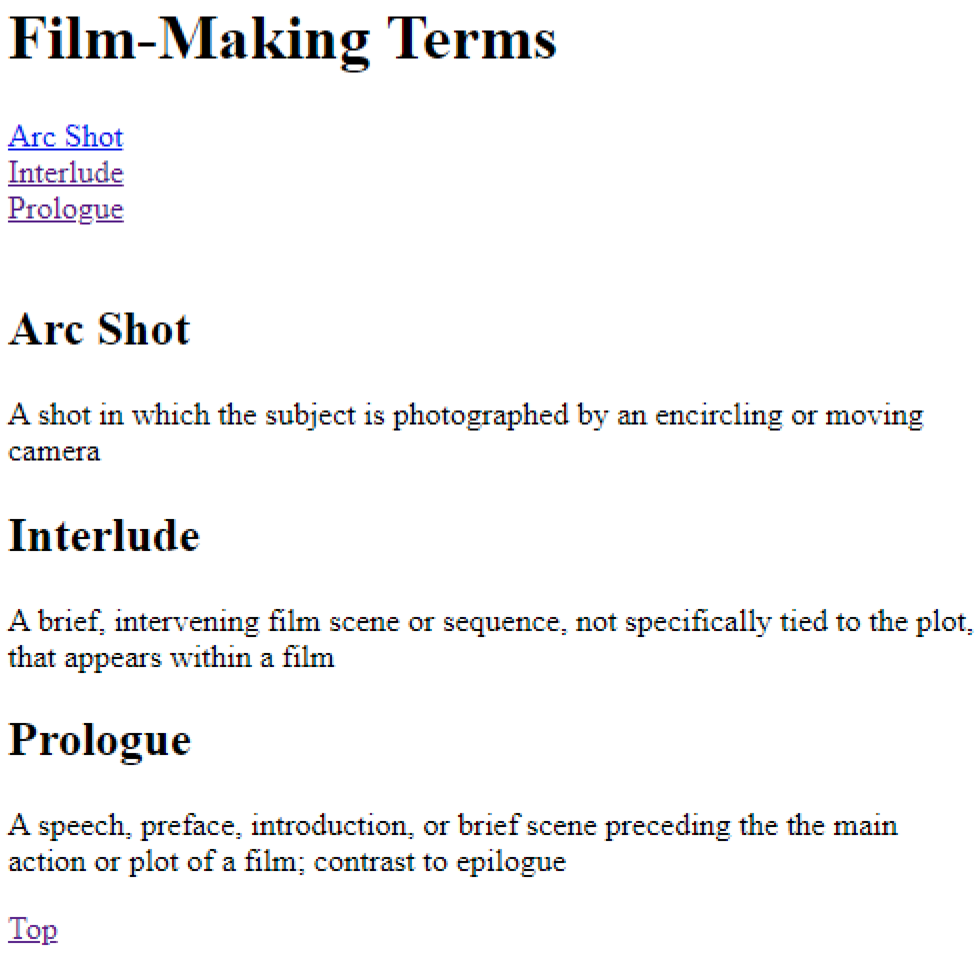
- Before you can link to a specific part of a page, you need to identify the points in the page that the link will go to. You do this using the **id** attribute (which can be used on every HTML element)

- The value of the id attribute should start with a letter or an underscore (not a number or any other character) and, on a single page, no two id attributes should have the same value

- To link to an element that uses an id attribute you use the `<a>` element again, but the value of the href attribute starts with the # symbol, followed by the value of the id attribute of the element you want to link to

Hyperlinks : Linking to another part of the same page

```
<h1 id="top">Film-Making Terms</h1>
<a href="#arc_shot">Arc Shot</a><br />
<a href="#interlude">Interlude</a><br />
<a href="#prologue">Prologue</a><br /><br />
<h2 id="arc_shot">Arc Shot</h2>
<p>A shot in which the subject is photographed by an
    encircling or moving camera</p>
<h2 id="interlude">Interlude</h2>
<p>A brief, intervening film scene or sequence, not
    specifically tied to the plot, that appears
    within a film</p>
<h2 id="prologue">Prologue</h2>
<p>A speech, preface, introduction, or brief scene
    preceding the the main action or plot of a film;
    contrast to epilogue</p>
<p><a href="#top">Top</a></p>
```



Film-Making Terms

Arc Shot
Interlude
Prologue

Arc Shot

A shot in which the subject is photographed by an encircling or moving camera

Interlude

A brief, intervening film scene or sequence, not specifically tied to the plot, that appears within a film

Prologue

A speech, preface, introduction, or brief scene preceding the the main action or plot of a film; contrast to epilogue

Top

Hyperlinks : Linking to another part of the same page

Think Critically:

Can we link to a specific part of another page from another website?

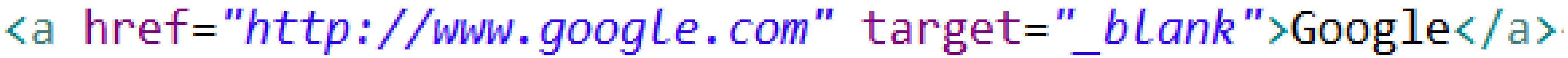
Hyperlinks : Opening links in a new window

- If you want a link to open in a new window, you can use the **target** attribute on the opening <a> tag
- The 2 values for the **target** attribute :
  - ❑ `target="_blank"`
    - ○ Opens the linked page in a new browser window
  - ❑ `target="_self"`
    - ○ Opens the linked page in the current browser window
    - ○ Default value

Hyperlinks : Opening links in a new window

`target="_blank" or target="_self" ?`

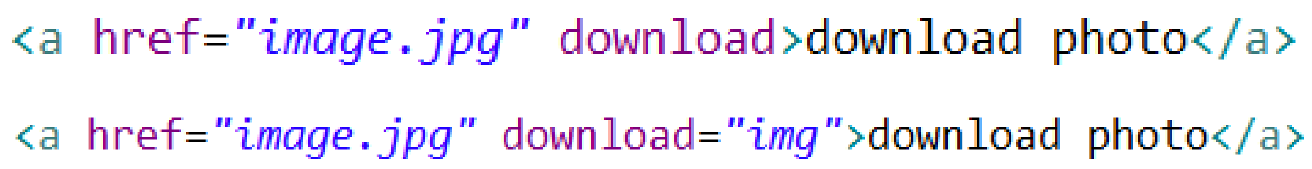
- **Rule of thumb:**
  - ✓ Open new pages on the same Web site in the same window
  - ✓ Open new pages on a different Web site in a new blank window



```
<a href="http://www.google.com" target="_blank">Google</a>
```

Hyperlinks : Downloading a file

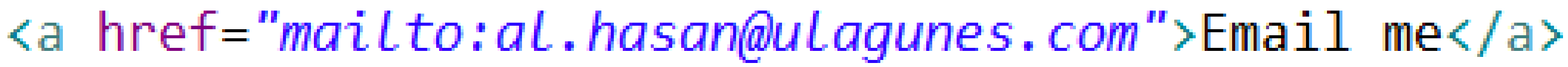
- If you want a link to download a file, you can use the **download** attribute on the opening <a> tag
- The download attribute specifies that the target (the file specified in the href attribute) will be downloaded when a user clicks on the hyperlink
- The optional value of the download attribute will be the new name of the file after it is downloaded
- There are no restrictions on allowed values, and the browser will automatically detect the correct file extension and add it to the file (.img, .pdf, .txt, .html, etc.).
- If the value is omitted, the original filename is used



```
<a href="image.jpg" download>download photo</a>
<a href="image.jpg" download="img">download photo</a>
```

Hyperlinks : Email links

- To create a link that starts up the user's email program and addresses an email to a specified email address, you use the `<a>` element
- However, this time the value of the **href** attribute starts with **mailto:** and is followed by the email address you want the email to be sent to



```
<a href="mailto:al.hasan@ulagunes.com">Email me</a>
```

Watch out!

Spammers search Web pages looking for addresses If you want to include an address, place it in an image (Or find some other way to obfuscate your address)

Hyperlinks : Summary

- Links are created using the <a> element
- The <a> element uses the href attribute to indicate the page you are linking to
- If you are linking to a page within your own site, it is best to use relative links rather than absolute URLs
- You can create links to open email programs with an email address in the "to" field
- You can use the id attribute to target elements within a page that can be linked to.

Hyperlinks : Revision 1

You use the # sign in the href attribute to specify a link to:

- ❑ A file in the same folder as the current Web page
- ❑ A file in a different folder as the current Web page
- ❑ A named location on the current Web page
- ❑ A Web page file on a different server
- ❑ None of the above

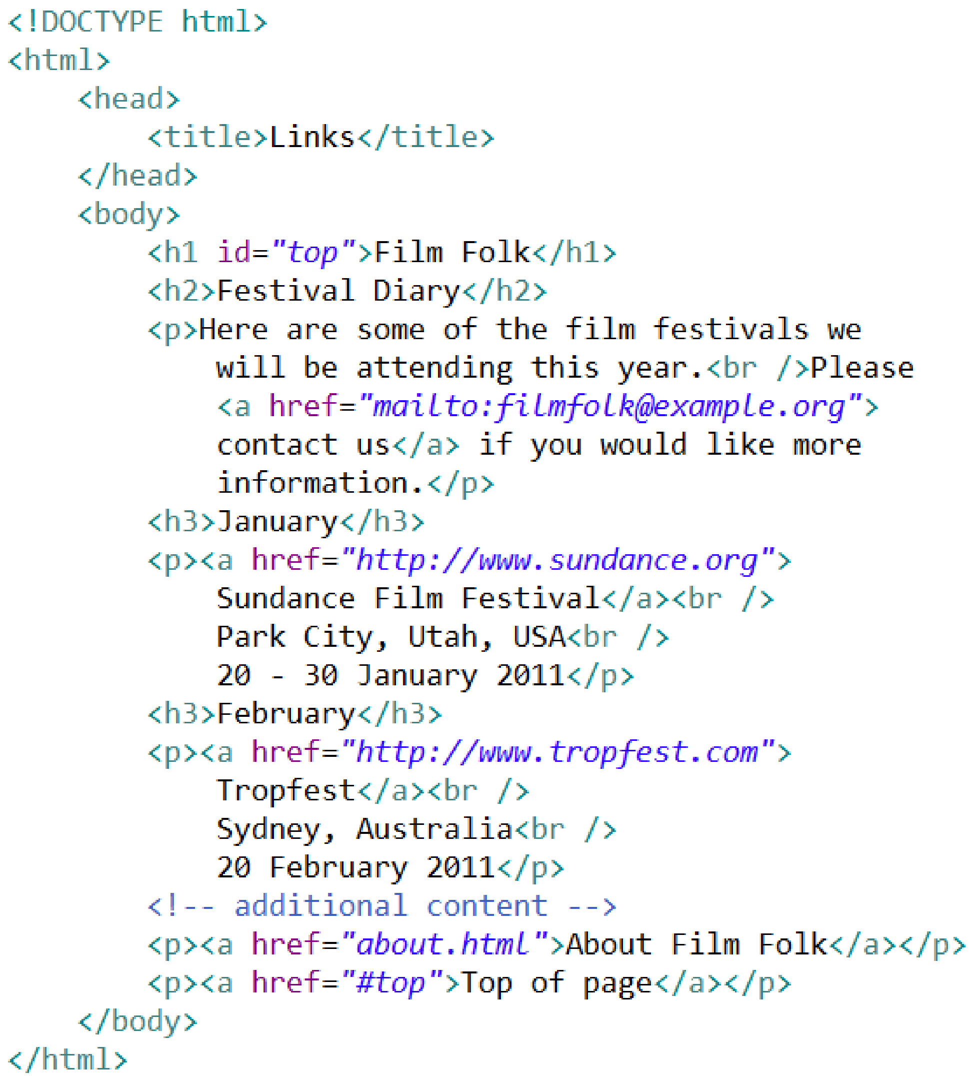
Hyperlinks : Revision 2

You can omit the target attribute in the <a> tag:

- ❑ True
- ❑ False
- ❑ I don't know

Hyperlinks : Revision 3

Create the following web page:



```
<!DOCTYPE html>
<html>
    <head>
        <title>Links</title>
    </head>
    <body>
        <h1 id="top">Film Folk</h1>
        <h2>Festival Diary</h2>
        <p>Here are some of the film festivals we
            will be attending this year.<br />Please
            <a href="mailto:filmfolk@example.org">
            contact us</a> if you would like more
            information.</p>
        <h3>January</h3>
        <p><a href="http://www.sundance.org">
            Sundance Film Festival</a><br />
            Park City, Utah, USA<br />
            20 - 30 January 2011</p>
        <h3>February</h3>
        <p><a href="http://www.tropfest.com">
            Tropfest</a><br />
            Sydney, Australia<br />
            20 February 2011</p>
        <!-- additional content -->
        <p><a href="about.html">About Film Folk</a></p>
        <p><a href="#top">Top of page</a></p>
    </body>
</html>
```

The HTML

HTML Topics :

- Tag & document structure
- Text formatting
- Page formatting
- Lists
- Tag attributes
- Hyperlinks
- Images
- Colors
- Tables

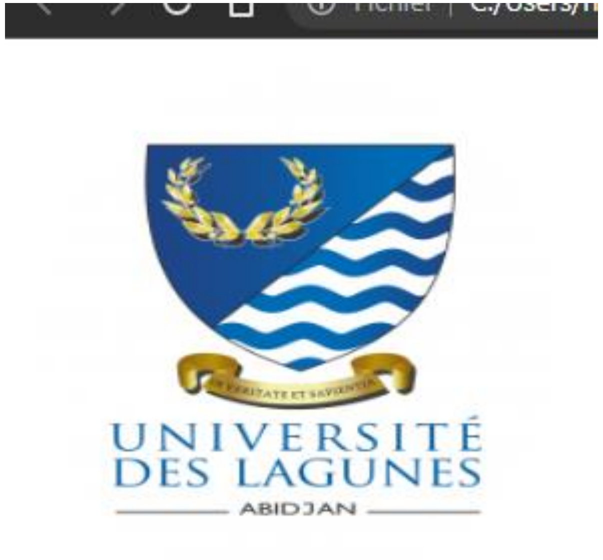
Images

- The main image types used in web pages:
  - PNG (.png) → can support transparency, used mainly for logos
  - GIF (.gif) → animations
  - JPEG (.jpg) → more general type, used everywhere else
- To insert an image, use the `<img>` element
- One-sided tag, so make it self-closing by adding trailing backslash
  - Not required, but meets XHTML standard

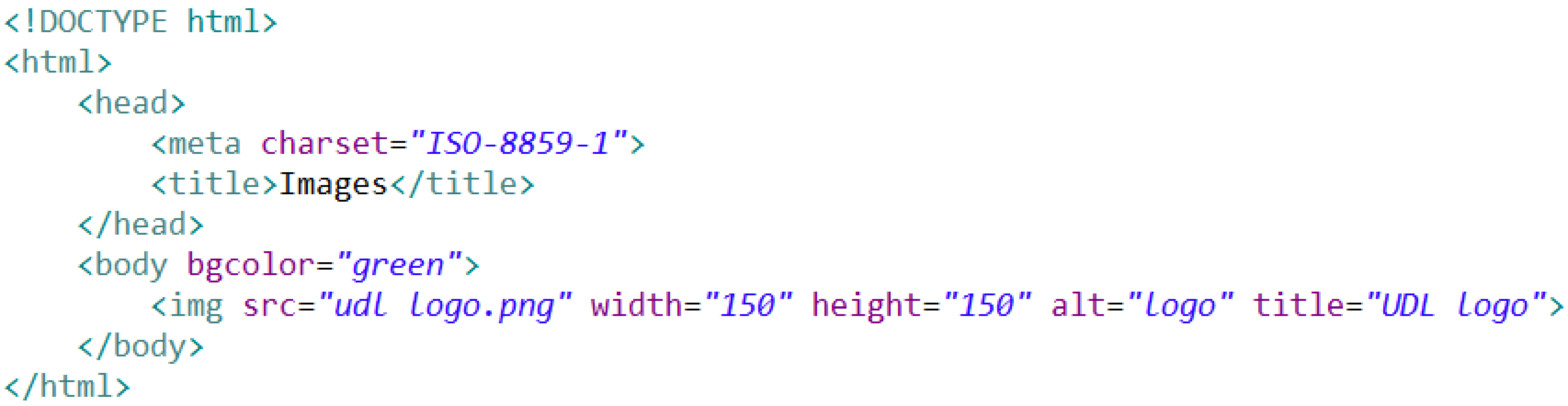
Images

- The main tag parameters :
  - `src` : the target file
  - `width` : width% or in pixels
  - `height` : height% or in pixels
  - `alt` : alternate text
  - `title` : text that appears when hovering over the image

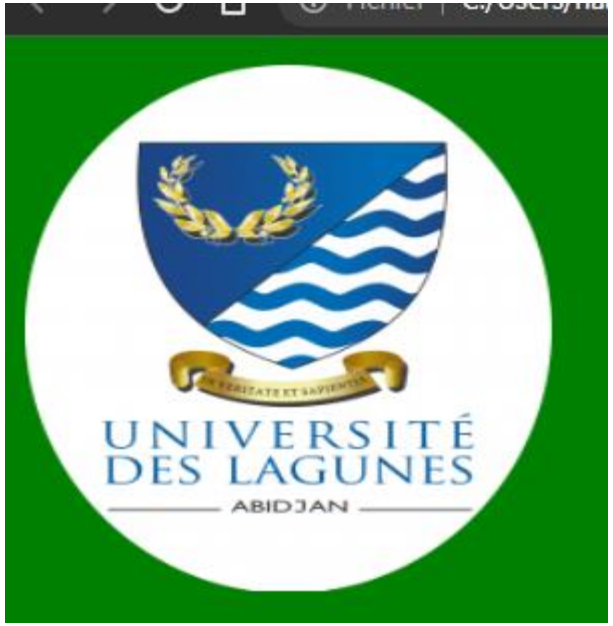
```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="ISO-8859-1">
        <title>Images</title>
    </head>
    <body>
        <img src="udl logo.png" width="150" height="150" alt="logo" title="UDL logo">
    </body>
</html>
```



Images



```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="ISO-8859-1">
        <title>Images</title>
    </head>
    <body bgcolor="green">
        <img src="udl logo.png" width="150" height="150" alt="logo" title="UDL logo">
    </body>
</html>
```



- The image here is a (.png) file with a part of its background transparent

- Images often take longer to load than the HTML code that makes up the rest of the page. It is, therefore, a good idea to specify the size of the image so that the browser can render the rest of the text on the page while leaving the right amount of space for the image that is still loading

Images : Where to place images

The placement of the image in the code is very important, here are 3 examples:

1. Before a paragraph:

   The paragraph starts on a new line after the image

2. At the start of a paragraph:

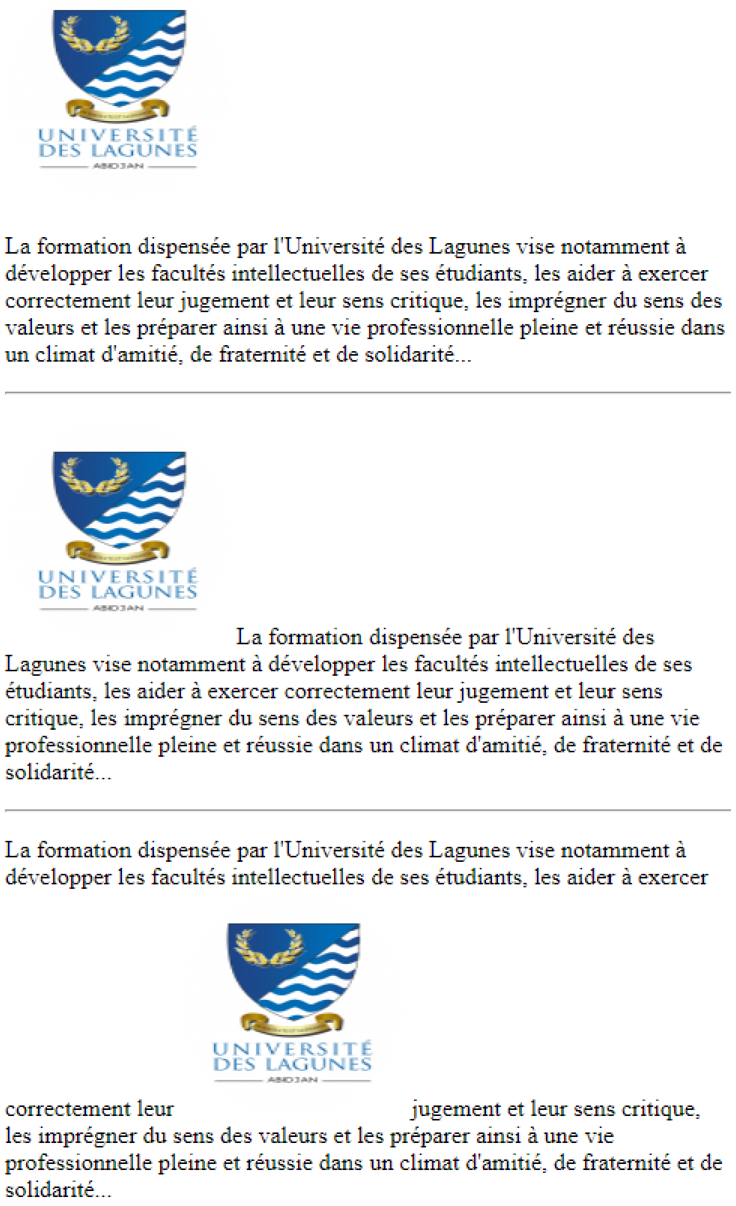
   The first row of text aligns with the bottom of the image

3. In the middle of a paragraph:

   The image is placed between the words of the paragraph that it appears in

Images : Where to place images

```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="ISO-8859-1">
        <title>Images</title>
    </head>
    <body>
        <img src="udl logo.png" width="150" height="150" alt="logo" title="UDL logo">
        <p>La formation dispensée par l'Université des Lagunes vise notamment à développer
            les facultés intellectuelles de ses étudiants, les aider à exercer correctement
            leur jugement et leur sens critique, les imprégner du sens des valeurs et les
            préparer ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié,
            de fraternité et de solidarité...</p>
        <hr/>
        <p><img src="udl logo.png" width="150" height="150" alt="logo" title="UDL logo">
            La formation dispensée par l'Université des Lagunes vise notamment à développer
            les facultés intellectuelles de ses étudiants, les aider à exercer correctement
            leur jugement et leur sens critique, les imprégner du sens des valeurs et les
            préparer ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié,
            de fraternité et de solidarité...</p>
        <hr/>
        <p>La formation dispensée par l'Université des Lagunes vise notamment à développer
            les facultés intellectuelles de ses étudiants, les aider à exercer correctement
            leur <img src="udl logo.png" width="150" height="150" alt="logo" title="UDL logo">
            jugement et leur sens critique, les imprégner du sens des valeurs et les préparer
            ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié, de
            fraternité et de solidarité...</p>
    </body>
</html>
```



La formation dispensée par l'Université des Lagunes vise notamment à développer les facultés intellectuelles de ses étudiants, les aider à exercer correctement leur jugement et leur sens critique, les imprégner du sens des valeurs et les préparer ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié, de fraternité et de solidarité...

La formation dispensée par l'Université des Lagunes vise notamment à développer les facultés intellectuelles de ses étudiants, les aider à exercer correctement leur jugement et leur sens critique, les imprégner du sens des valeurs et les préparer ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié, de fraternité et de solidarité...

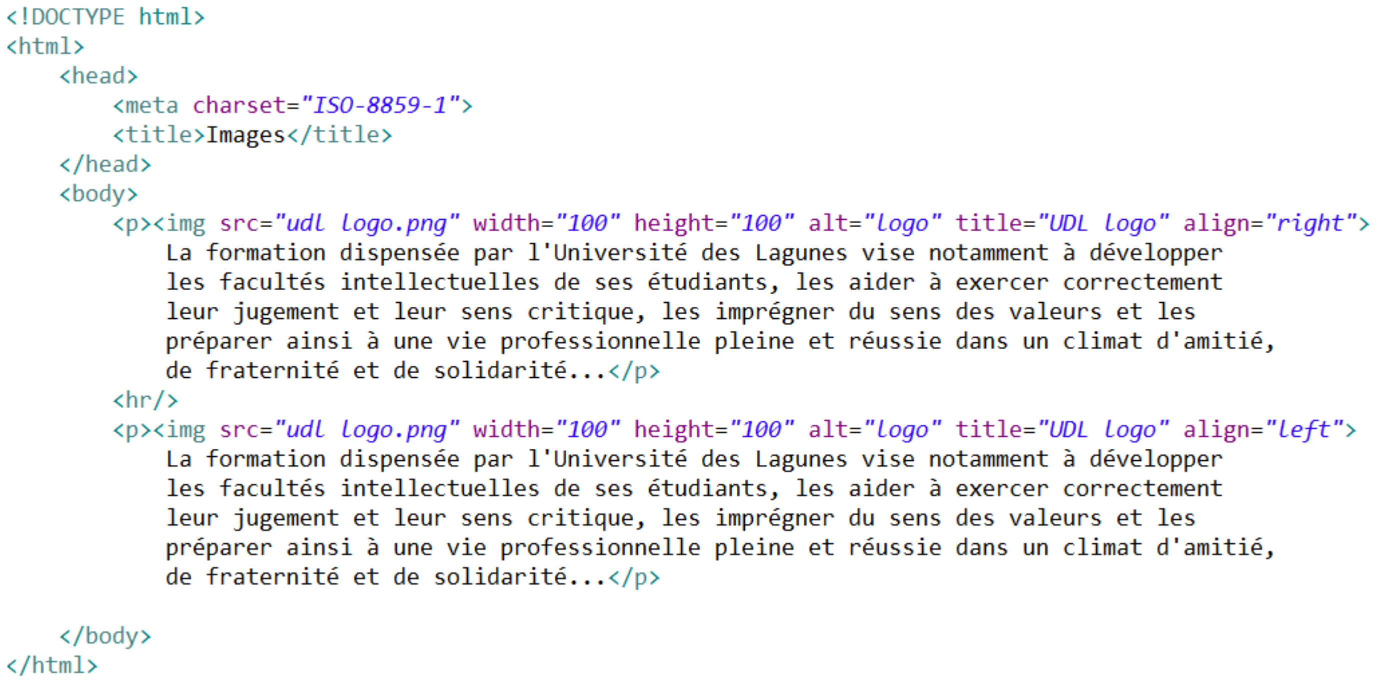
La formation dispensée par l'Université des Lagunes vise notamment à développer les facultés intellectuelles de ses étudiants, les aider à exercer correctement leur jugement et leur sens critique, les imprégner du sens des valeurs et les préparer ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié, de fraternité et de solidarité...

Images : Aligning images

You can align the image inside a paragraph :

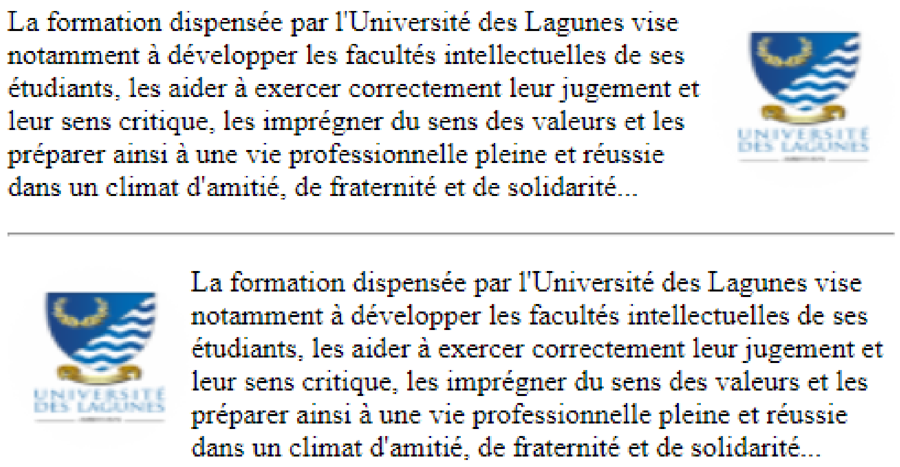
1. **Horizontally:**
    - Left using the attribute `align=“left”`
    - Right using the attribute `align=“right”`
2. **Vertically:**
    - Top using the attribute `align=“top”`
    - Middle using the attribute `align=“middle”`
    - Bottom using the attribute `align=“bottom”`

Images : Aligning images



```html
<!DOCTYPE html>
<html>
    <head>
        <meta charset="ISO-8859-1">
        <title>Images</title>
    </head>
    <body>
        <p><img src="udl logo.png" width="100" height="100" alt="logo" title="UDL logo" align="right">
            La formation dispensée par l'Université des Lagunes vise notamment à développer
            les facultés intellectuelles de ses étudiants, les aider à exercer correctement
            leur jugement et leur sens critique, les imprégner du sens des valeurs et les
            préparer ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié,
            de fraternité et de solidarité...</p>
        <hr/>
        <p><img src="udl logo.png" width="100" height="100" alt="logo" title="UDL logo" align="left">
            La formation dispensée par l'Université des Lagunes vise notamment à développer
            les facultés intellectuelles de ses étudiants, les aider à exercer correctement
            leur jugement et leur sens critique, les imprégner du sens des valeurs et les
            préparer ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié,
            de fraternité et de solidarité...</p>

    </body>
</html>
```

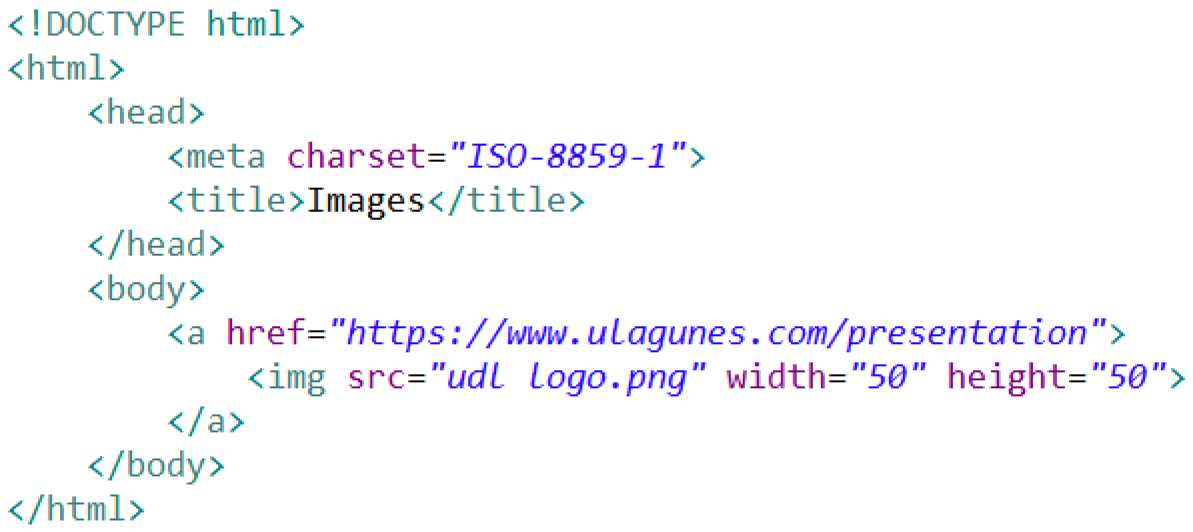


La formation dispensée par l'Université des Lagunes vise notamment à développer les facultés intellectuelles de ses étudiants, les aider à exercer correctement leur jugement et leur sens critique, les imprégner du sens des valeurs et les préparer ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié, de fraternité et de solidarité...

La formation dispensée par l'Université des Lagunes vise notamment à développer les facultés intellectuelles de ses étudiants, les aider à exercer correctement leur jugement et leur sens critique, les imprégner du sens des valeurs et les préparer ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié, de fraternité et de solidarité...

Images : images as hyperlinks

- You can place an image tag `<img>` within a hyperlink tag `<a>`
- When the user clicks the image, the browser goes to the hyperlink reference



```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="ISO-8859-1">
        <title>Images</title>
    </head>
    <body>
        <a href="https://www.ulagunes.com/presentation">
            <img src="udl logo.png" width="50" height="50">
        </a>
    </body>
</html>
```

The HTML

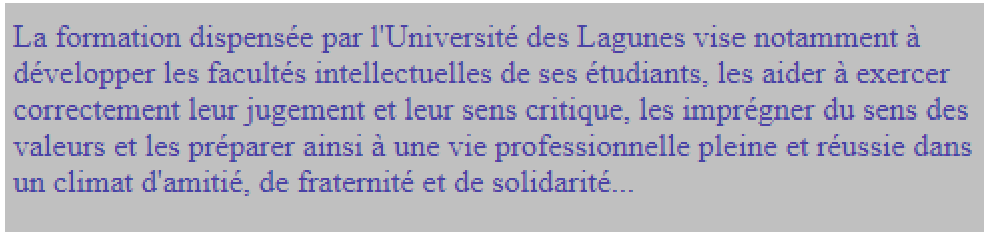
HTML Topics :

- Tag & document structure
- Text formatting
- Page formatting
- Lists
- Tag attributes
- Hyperlinks
- Images
- Colors
- Tables

Colors : Background and text colors

- You can use attributes in the `<body>` tag to alter the color of the background and text:
  - `bgcolor` : page background color
  - `text` : text color
- You can specify colors as :
  - Named representations : less supported than RGB representation
  - RGB representations : hex presentation, starts with #

```html
<!DOCTYPE html>
<html>
    <head>
        <title>Colors</title>
    </head>
    <body bgcolor="silver" text="#4841A5">
        <p>
            La formation dispensée par l'Université des Lagunes vise notamment à développer
            les facultés intellectuelles de ses étudiants, les aider à exercer correctement
            leur jugement et leur sens critique, les imprégner du sens des valeurs et les
            préparer ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié,
            de fraternité et de solidarité...</p>
    </body>
</html>
```



La formation dispensée par l'Université des Lagunes vise notamment à développer les facultés intellectuelles de ses étudiants, les aider à exercer correctement leur jugement et leur sens critique, les imprégner du sens des valeurs et les préparer ainsi à une vie professionnelle pleine et réussie dans un climat d'amitié, de fraternité et de solidarité...

The HTML

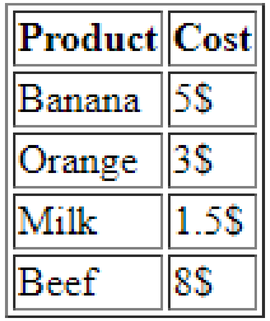
HTML Topics :

- Tag & document structure
- Text formatting
- Page formatting
- Lists
- Tag attributes
- Hyperlinks
- Images
- Colors
- Tables

Tables

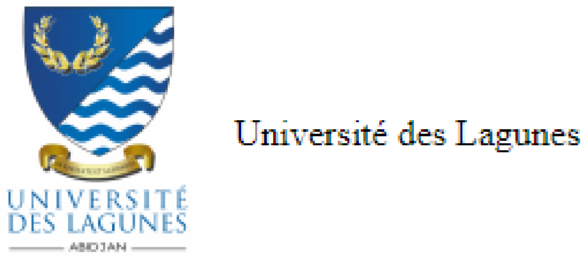
- Tables format data in a tabular matrix
- Useful for:

❑ Displaying retrieved data



Product	Cost
Banana	5$
Orange	3$
Milk	1.5$
Beef	8$

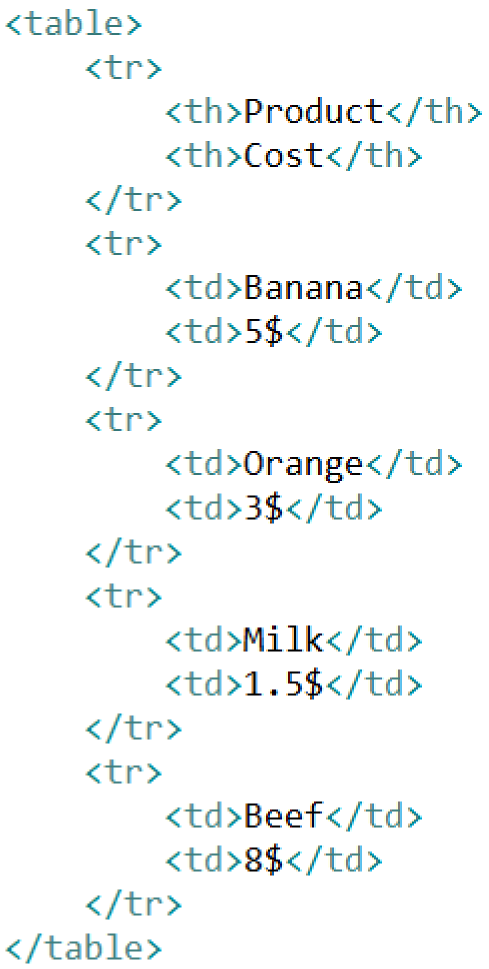
❑ Formatting text and graphics side-by-side (the image is in the first table cell and Product Guide is in the second cell)



Université des Lagunes

Tables

- Syntax for creating a table:
  - ❑ The table element : `<table>`
  - ❑ A Row element : `<tr>`
  - ❑ A header cell : `<th>`
  - ❑ A normal cell element : `<td>`

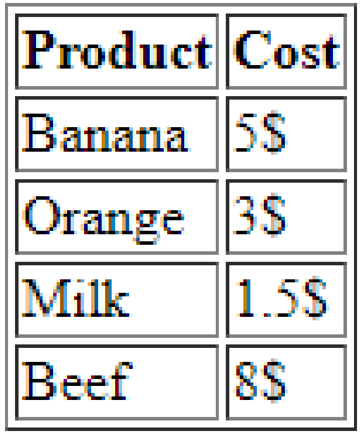


```
<table>
    <tr>
        <th>Product</th>
        <th>Cost</th>
    </tr>
    <tr>
        <td>Banana</td>
        <td>5$</td>
    </tr>
    <tr>
        <td>Orange</td>
        <td>3$</td>
    </tr>
    <tr>
        <td>Milk</td>
        <td>1.5$</td>
    </tr>
    <tr>
        <td>Beef</td>
        <td>8$</td>
    </tr>
</table>
```

Tables

- The border of a table is controlled with border attribute for the `<table>` element

```
<table border=1>
    <tr>
        <th>Product</th>
        <th>Cost</th>
    </tr>
    <tr>
        <td>Banana</td>
        <td>5$</td>
    </tr>
    <tr>
        <td>Orange</td>
        <td>3$</td>
    </tr>
    <tr>
        <td>Milk</td>
        <td>1.5$</td>
    </tr>
    <tr>
        <td>Beef</td>
        <td>8$</td>
    </tr>
</table>
```



Product	Cost
Banana	5$
Orange	3$
Milk	1.5$
Beef	8$

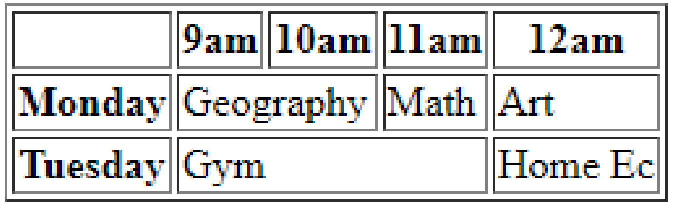
Tables : Spanning columns and rows

- Sometimes you may need the entries in a table to stretch across more than one column or row
  - ❑ Spanning columns: use the attribute `colspan=“n”` in the cell `<td>` that needs to be spanned
  - ❑ Spanning rows: use the attribute `rowspan=“n”` in the cell `<td>` that needs to be spanned

Tables : Spanning columns and rows

- Examples:

```html
<table border=1>
    <tr>
        <th></th>
        <th>9am</th>
        <th>10am</th>
        <th>11am</th>
        <th>12am</th>
    </tr>
    <tr>
        <th>Monday</th>
        <td colspan="2">Geography</td>
        <td>Math</td>
        <td>Art</td>
    </tr>
    <tr>
        <th>Tuesday</th>
        <td colspan="3">Gym</td>
        <td>Home Ec</td>
    </tr>
</table>
```

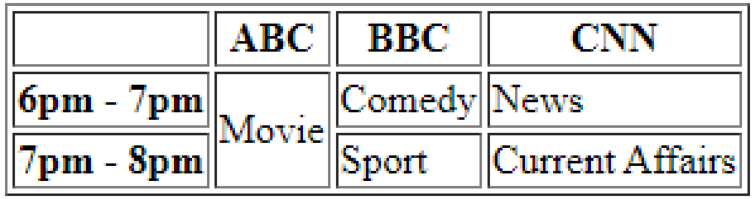


	9am	10am	11am	12am
Monday	Geography		Math	Art
Tuesday	Gym			Home Ec

Tables : Spanning columns and rows

- Examples:

```
<table border="1">
    <tr>
        <th></th>
        <th>ABC</th>
        <th>BBC</th>
        <th>CNN</th>
    </tr>
    <tr>
        <th>6pm - 7pm</th>
        <td rowspan="2">Movie</td>
        <td>Comedy</td>
        <td>News</td>
    </tr>
    <tr>
        <th>7pm - 8pm</th>
        <td>Sport</td>
        <td>Current Affairs</td>
    </tr>
</table>
```



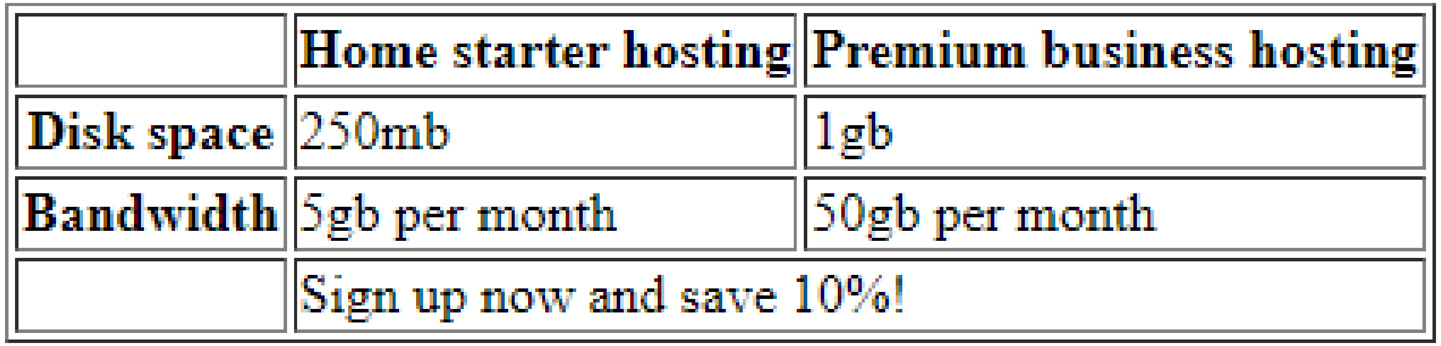
	ABC	BBC	CNN
6pm - 7pm	Movie	Comedy	News
7pm - 8pm		Sport	Current Affairs

Tables : Summary

- The `<table>` element is used to add tables to a web page
- A table is drawn out row by row
- Each row is created with the `<tr>` element
- Inside each row there are a number of cells represented by the `<td>` element (or `<th>` if it is a header)
- You can make cells of a table span more than one row or column using the `rowspan` and `colspan` attributes

Tables : Revision 1

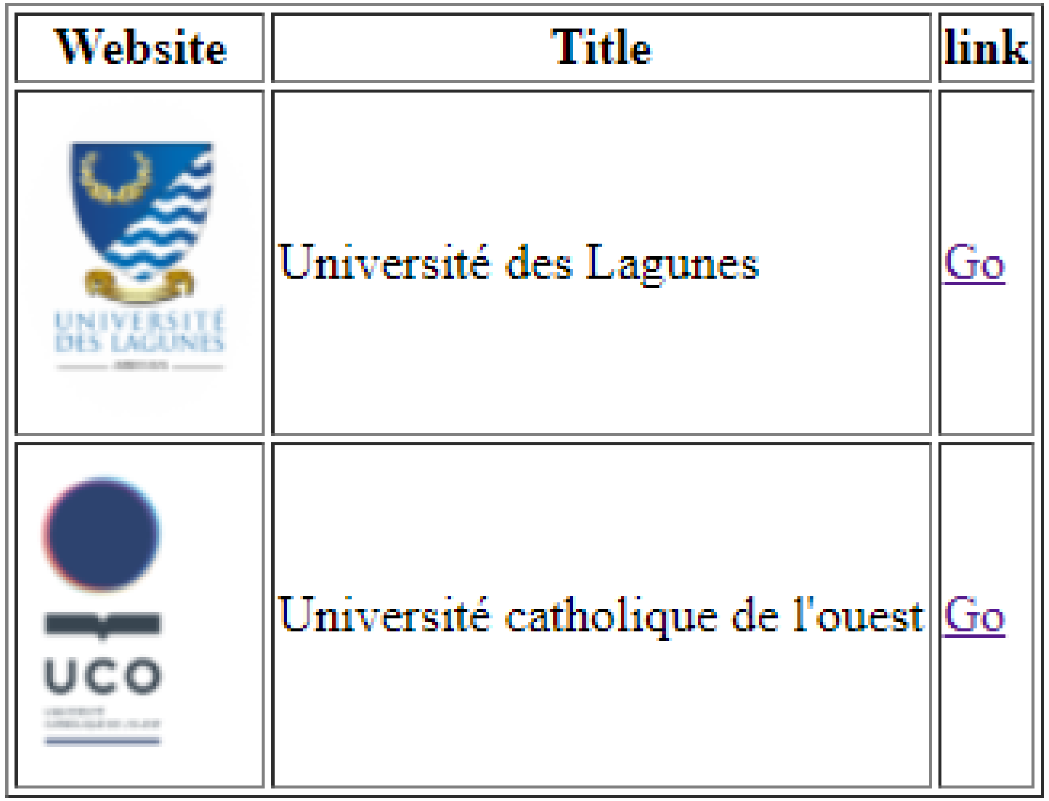
Create the following web page:



	Home starter hosting	**Premium business hosting**
Disk space	250mb	1gb
Bandwidth	5gb per month	50gb per month
	Sign up now and save 10%!	

Tables : Revision 2

Create the following web page:



Website	Title	link
UNIVERSITÉ DES LAGUNES	Université des Lagunes	Go
UCO	Université catholique de l'ouest	Go

Troisième partie

Cascading Style Sheets (CSS)

CSS

CSS Topics :

- Definition and Motivation
- Syntax, selectors and style precedence
- Colors, backgrounds and borders
- Box model
- Text, links and lists
- Tables
- Divs

CSS : Definition and motivation

What is CSS?

- CSS stands for Cascading Style Sheets
- CSS describes how HTML elements are to be displayed on screen, paper, or in other media

Motivations :

- HTML was NEVER intended to contain tags for formatting a web page!
- HTML was created to describe only the content of a web page
- CSS enables you to separate **content** from **appearance**
- CSS saves a lot of work. It can control the layout of multiple web pages all at once

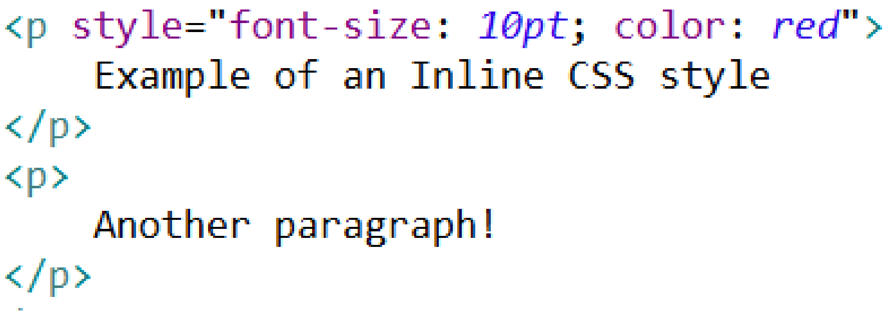
CSS : How to

There are three ways of inserting a style sheet :

1. **Inline CSS :** add the CSS style to the HTML element in the opening tag

   ❑ Applies only to contents of the specified tag

   ❑ Doesn’t separate content and appearance !



```
<p style="font-size: 10pt; color: red">
    Example of an Inline CSS style
</p>
<p>
    Another paragraph!
</p>
```

CSS : How to

There are three ways of inserting a style sheet :

2. **Internal CSS :** the CSS part is enclosed within `<style>` tags in the page heading section

   - ❑ Applies only to the elements in that page
   - ❑ Slight improvement in separating content and appearance, but still not actually separated !

```
<!DOCTYPE html>
<html>
    <head>
        <title>My page</title>
        <style type="text/css">
            p {
                font-size: 10pt;
                color: red
            }
        </style>
    </head>
    <body>
        <p>
            Example of an Inline CSS style
        </p>
        <p>
            Another paragraph!
        </p>
    </body>
</html>
```

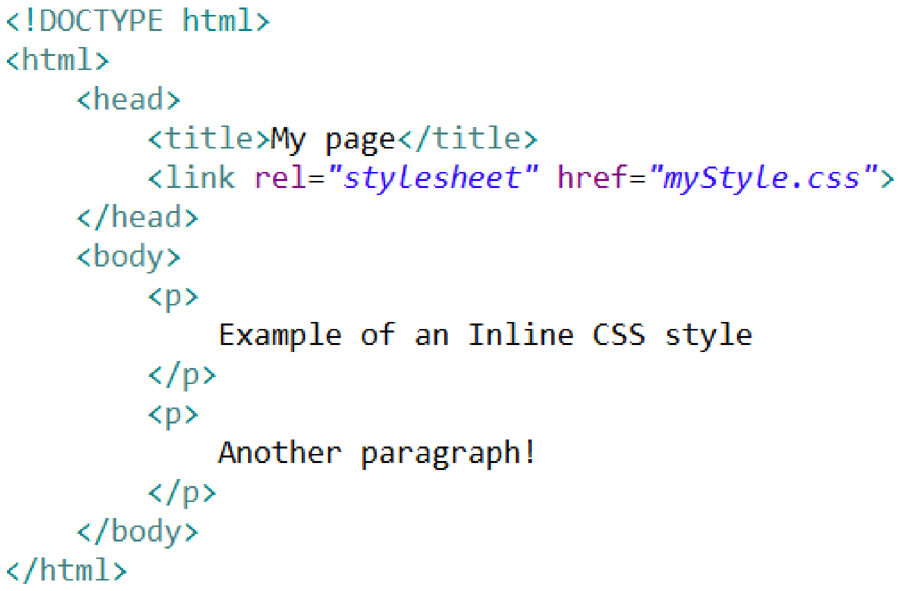
CSS : How to

There are three ways of inserting a style sheet :

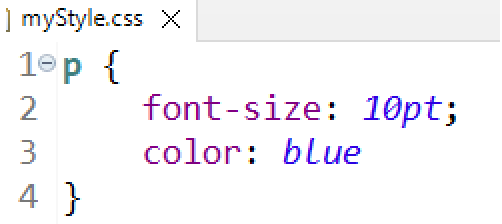
3. **External CSS :** the CSS part is separated and stored in a different file (ex: myStyle.css)

   ❑ You can change the look of an entire website by changing just one file!

   ❑ Each HTML page must include a reference to the external style sheet file inside the `<link>` element, inside the head section



```html
<!DOCTYPE html>
<html>
    <head>
        <title>My page</title>
        <link rel="stylesheet" href="myStyle.css">
    </head>
    <body>
        <p>
            Example of an Inline CSS style
        </p>
        <p>
            Another paragraph!
        </p>
    </body>
</html>
```



```css
p {
    font-size: 10pt;
    color: blue
}
```

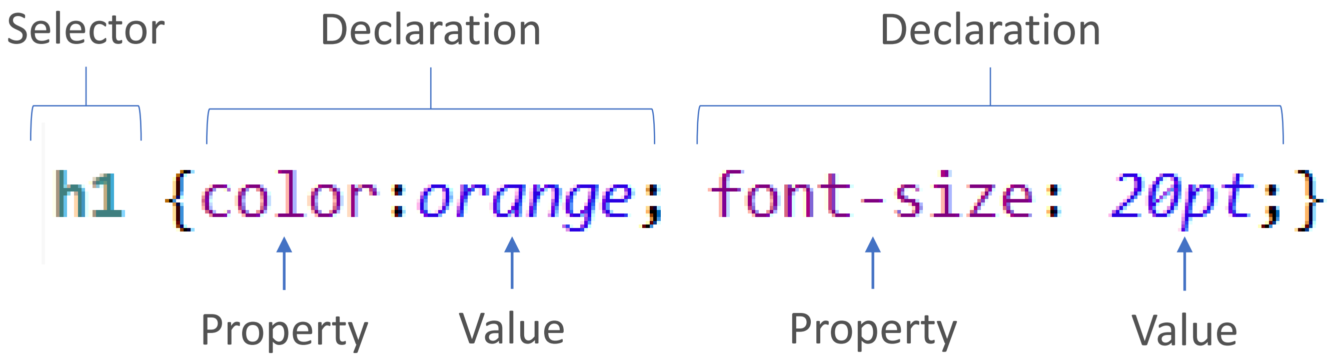
CSS

CSS Topics :

- Definition and Motivation
- Syntax, selectors and style precedence
- Colors, backgrounds and borders
- Box model
- Text, links and lists
- Tables
- Divs

CSS : Syntax

A CSS rule consists of a selector and a declaration block



Selector

Declaration

Declaration

```
h1 {color:orange; font-size: 20pt;}
```

Property

Value

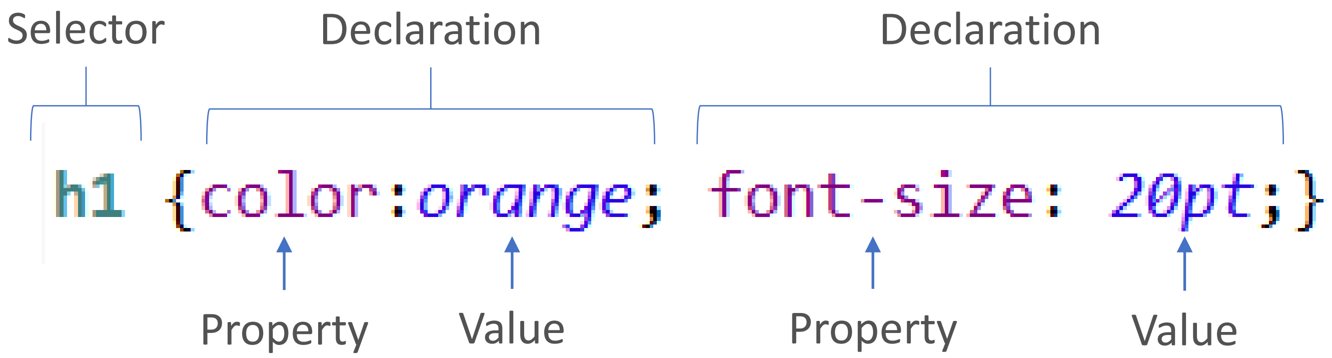
Property

Value

- The selector points to the HTML element you want to style
- The declaration block contains one or more declarations separated by semicolons
- Each declaration includes a CSS property name and a value, separated by a colon
- Multiple CSS declarations are separated with semicolons, and declaration blocks are surrounded by curly braces.

CSS : Selectors

A CSS rule consists of a selector and a declaration block



```
h1 {color:orange; font-size: 20pt;}
```

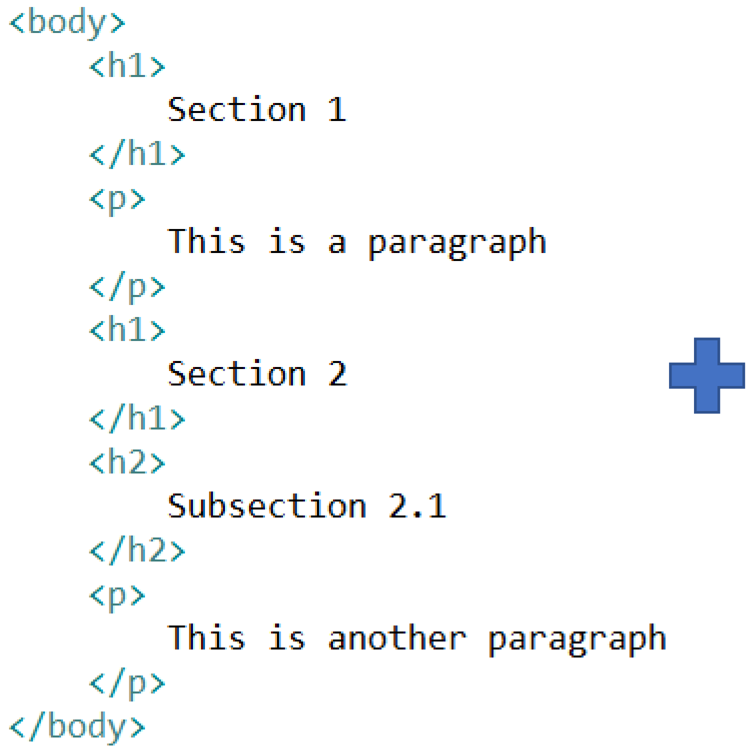
Selectors can be:

- ❑ Tags
- ❑ Class names
- ❑ Element IDs

CSS : Tag selector

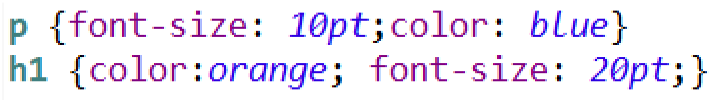
Tag selector : Applies the desired style to all HTML elements associated with a certain tag

- Can apply the style to multiple elements on the same page



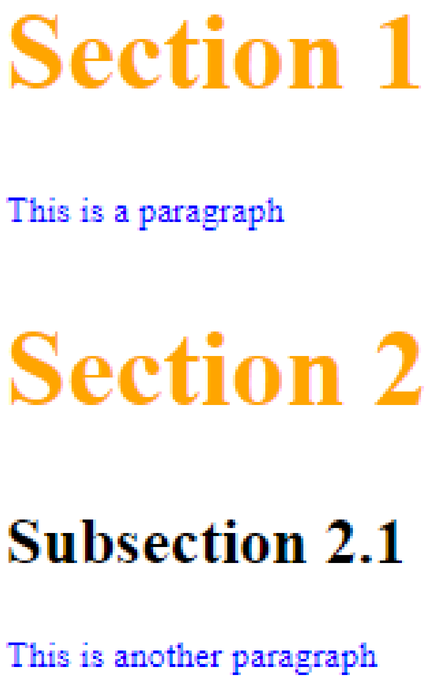
```
<body>
    <h1>
        Section 1
    </h1>
    <p>
        This is a paragraph
    </p>
    <h1>
        Section 2
    </h1>
    <h2>
        Subsection 2.1
    </h2>
    <p>
        This is another paragraph
    </p>
</body>
```

+



```
p {font-size: 10pt;color: blue}
h1 {color:orange; font-size: 20pt;}
```

=



Section 1

This is a paragraph

Section 2

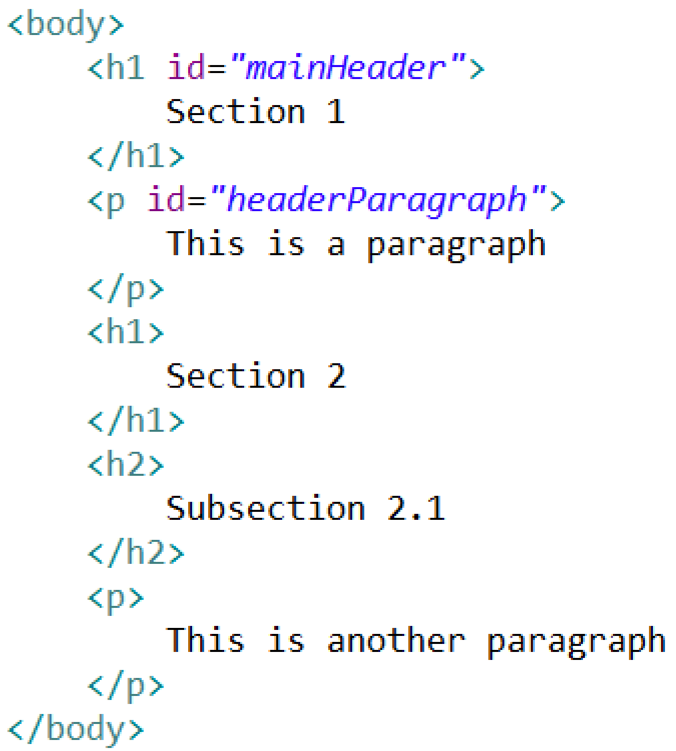
Subsection 2.1

This is another paragraph

CSS : ID selector

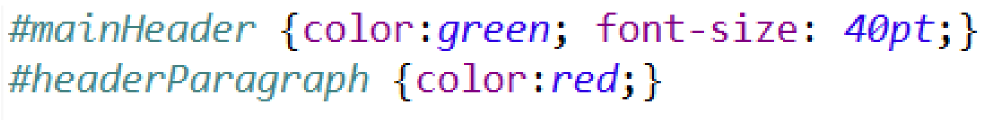
ID selector : Applies the desired style to a specific HTML element with a specific id attribute

- To select an element with a specific id, write a hash (#) character, followed by the id of the element
- The id of an element is unique within a page, so the id selector is used to apply the style to only one unique element on each page!



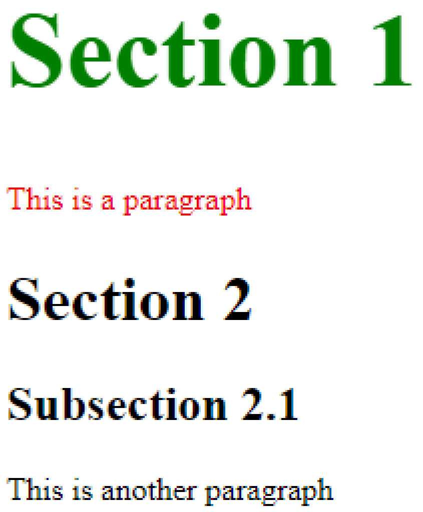
```
<body>
    <h1 id="mainHeader">
        Section 1
    </h1>
    <p id="headerParagraph">
        This is a paragraph
    </p>
    <h1>
        Section 2
    </h1>
    <h2>
        Subsection 2.1
    </h2>
    <p>
        This is another paragraph
    </p>
</body>
```

+



```
#mainHeader {color:green; font-size: 40pt;}
#headerParagraph {color:red;}
```

=



Section 1

This is a paragraph

Section 2

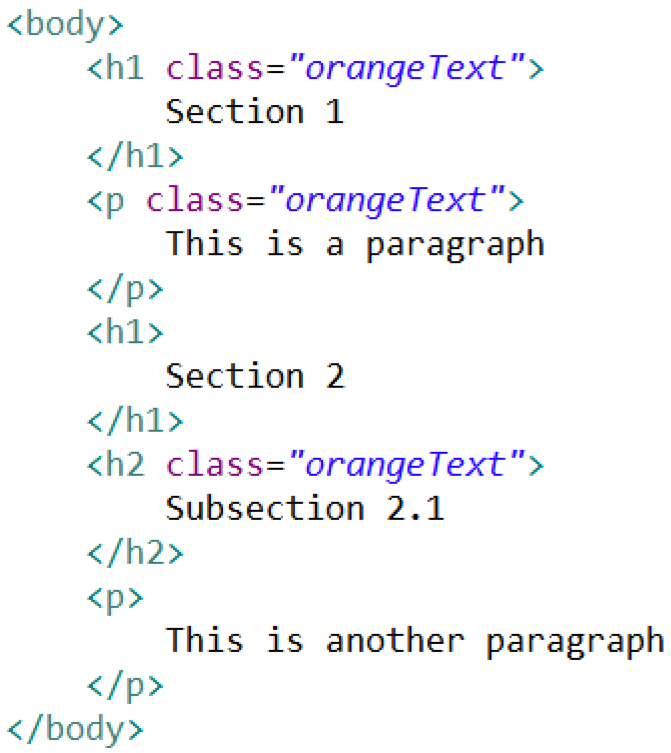
Subsection 2.1

This is another paragraph

CSS : Class selector

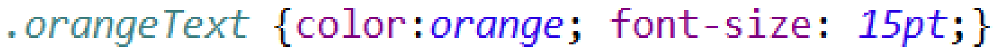
Class selector : Applies the desired style to all HTML elements with a specific class attribute

- To select elements with a specific class, write a period (.) character, followed by the class name
- Can apply the style to multiple elements on the same page



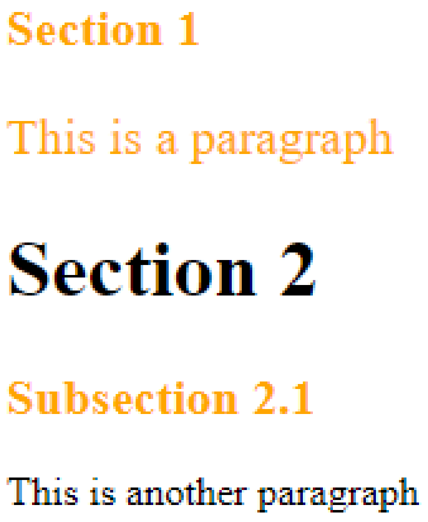
```
<body>
    <h1 class="orangeText">
        Section 1
    </h1>
    <p class="orangeText">
        This is a paragraph
    </p>
    <h1>
        Section 2
    </h1>
    <h2 class="orangeText">
        Subsection 2.1
    </h2>
    <p>
        This is another paragraph
    </p>
</body>
```

+



```
.orangeText {color:orange; font-size: 15pt;}
```

=



Section 1

This is a paragraph

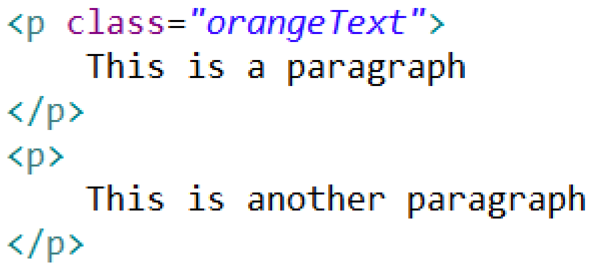
Section 2

Subsection 2.1

This is another paragraph

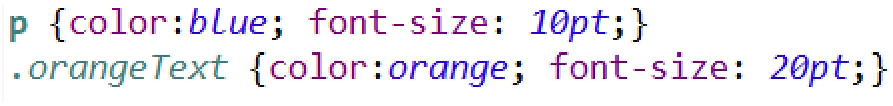
CSS : Style Precedence

- Sometimes an item has multiple applicable styles



```html
<p class="orangeText">
    This is a paragraph
</p>
<p>
    This is another paragraph
</p>
```

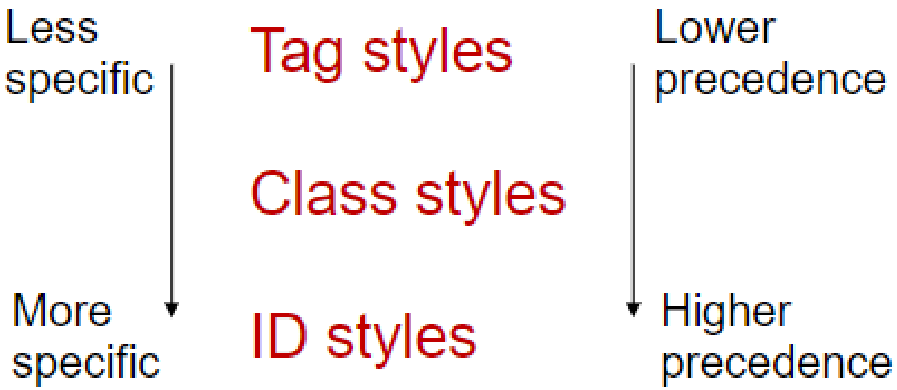
+



```css
p {color:blue; font-size: 10pt;}
.orangeText {color:orange; font-size: 20pt;}
```

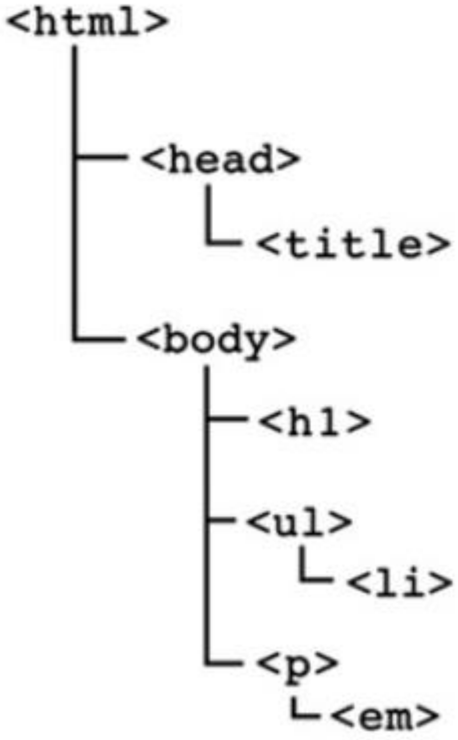
=

- Therefore, web pages follow a style precedence :



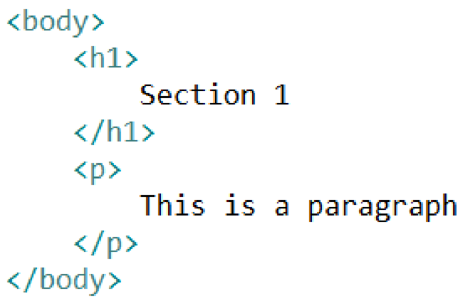
CSS : Style Inheritance

Child elements inherit styles from **parent elements** unless the child element has a specific style assigned to it that overrides the parent style



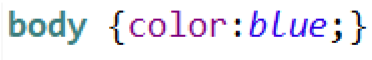
```
<html>
 ├─<head>
 │   └<title>
 └─<body>
     ├─<h1>
     ├─<ul>
     │   └<li>
     └─<p>
        └<em>
```

Example :



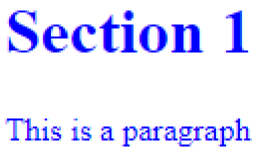
```
<body>
    <h1>
        Section 1
    </h1>
    <p>
        This is a paragraph
    </p>
</body>
```

+



```
body {color:blue;}
```

=



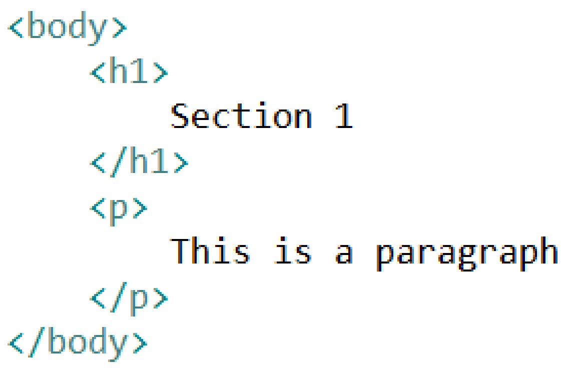
Section 1

This is a paragraph

CSS : Style Order

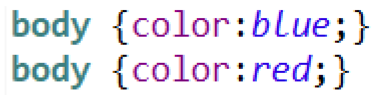
If style rules conflict, the style that appears last (later) in the style sheet is applied

- ❑ But this isn’t something that should be done in a style sheet!



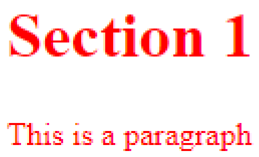
```
<body>
    <h1>
        Section 1
    </h1>
    <p>
        This is a paragraph
    </p>
</body>
```

+



```
body {color:blue;}
body {color:red;}
```

=



Section 1

This is a paragraph

CSS Syntax, selectors and style precedence : Revision 1

What type of style would you use to specify the background color of some (but not all) paragraphs on a Web page?

a) Tag

b) Class

c) ID

d) All of the above would work equally well

e) Either b or c

CSS Syntax, selectors and style precedence : Revision 2

You could use a single tag style to specify:

a) The background color of all tables in a Web site

b) The background color of a specific table on a Web page

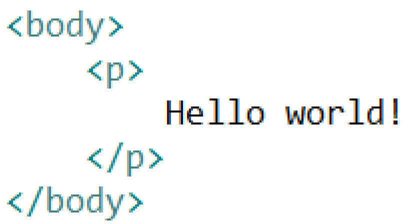
c) A border style for images and tables (without affecting any other elements) in a Web site

d) All of the above

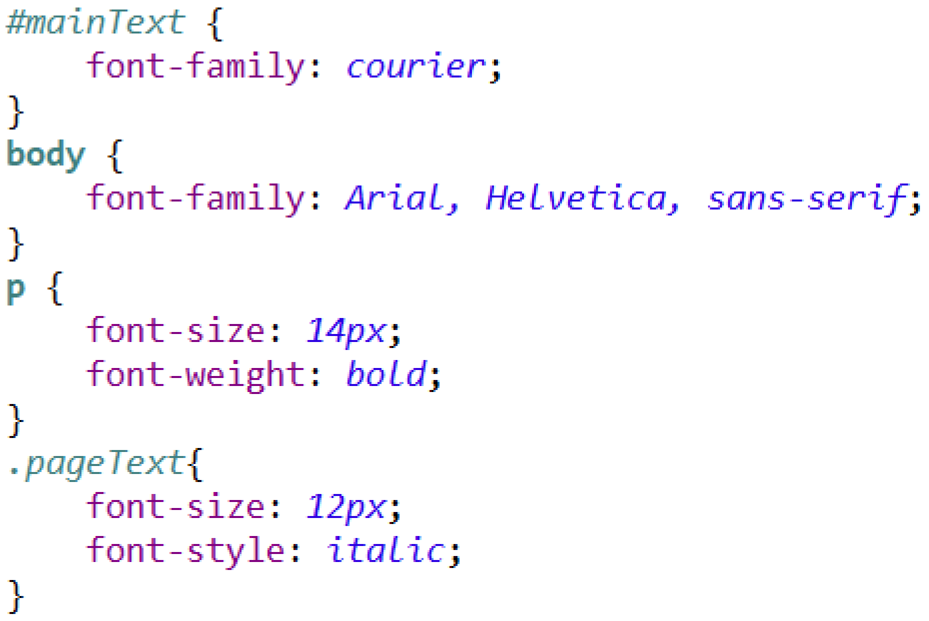
e) None of the above

CSS Syntax, selectors and style precedence : Revision 3

Given the following markup and CSS, how will the text “Hello world!" appear?



```
<body>
    <p>
        Hello world!
    </p>
</body>
```



```
#mainText {
    font-family: courier;
}
body {
    font-family: Arial, Helvetica, sans-serif;
}
p {
    font-size: 14px;
    font-weight: bold;
}
.pageText{
    font-size: 12px;
    font-style: italic;
}
```

a) 12px Arial regular font

b) 14px Arial bold font

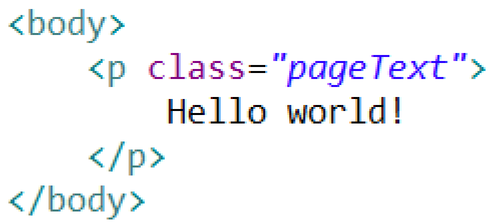
c) 14px Times Roman bold font

d) 12px Arial italic font

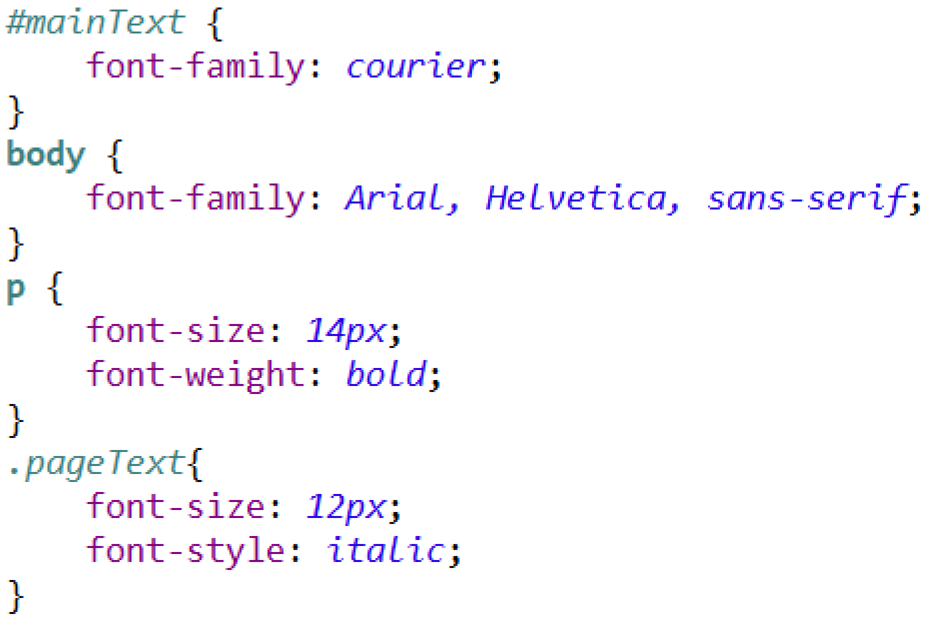
e) None of the above

CSS Syntax, selectors and style precedence : Revision 4

Given the following markup and CSS, how will the text "Hello world!" appear?



```
<body>
    <p class="pageText">
        Hello world!
    </p>
</body>
```



```
#mainText {
    font-family: courier;
}
body {
    font-family: Arial, Helvetica, sans-serif;
}
p {
    font-size: 14px;
    font-weight: bold;
}
.pageText{
    font-size: 12px;
    font-style: italic;
}
```

a) 12px Arial regular font

b) 14px Arial bold font

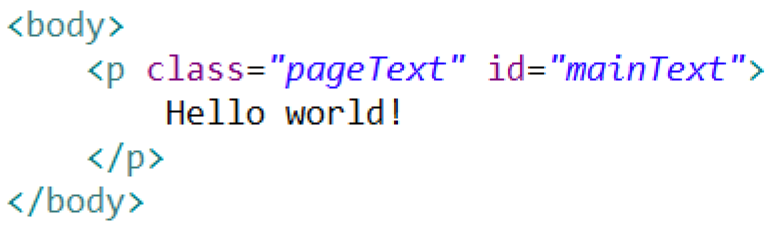
c) 14px Times Roman bold font

d) 12px Arial bold italic font

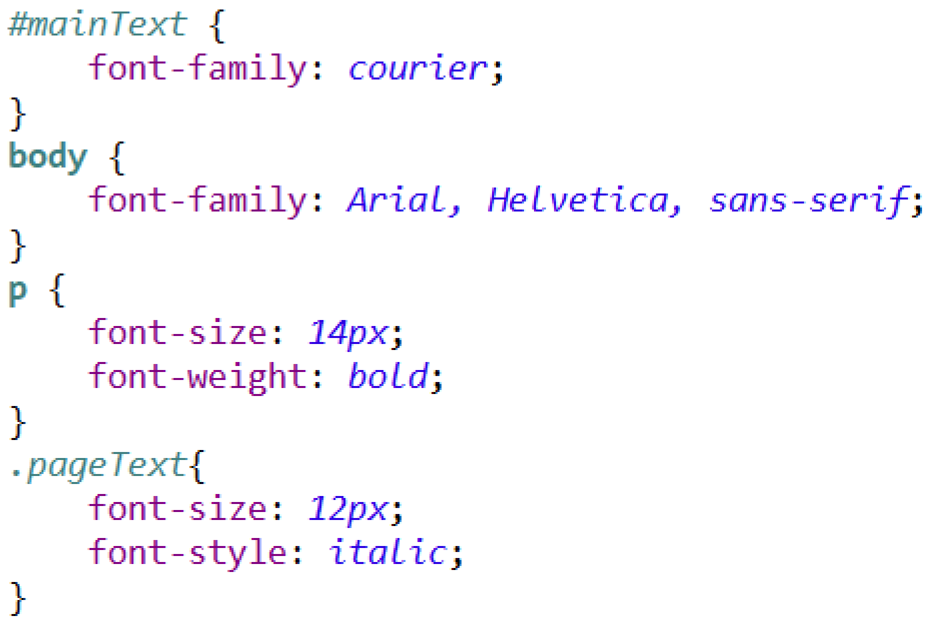
e) None of the above

CSS Syntax, selectors and style precedence : Revision 5

Given the following markup and CSS, how will the text "Hello world!" appear?



```html
<body>
    <p class="pageText" id="mainText">
        Hello world!
    </p>
</body>
```



```css
#mainText {
    font-family: courier;
}
body {
    font-family: Arial, Helvetica, sans-serif;
}
p {
    font-size: 14px;
    font-weight: bold;
}
.pageText{
    font-size: 12px;
    font-style: italic;
}
```

a) 12px courier regular italic font

b) 12px courier bold font

c) 14px courier bold italic font

d) 12px courier bold italic font

e) None of the above

CSS

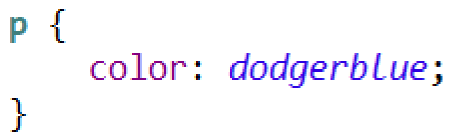
CSS Topics :

- Definition and Motivation
- Syntax, selectors and style precedence
- Colors, backgrounds and borders
- Box model
- Text, links and lists
- Tables
- Divs

CSS : Colors

Similar to HTML, a color can be specified in CSS using :

- Named representations : CSS/HTML support 140 standard color names
  - The full list can be found here: https://www.w3schools.com/colors/colors_names.asp



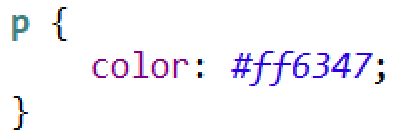
```
p {
    color: dodgerblue;
}
```

- RGB representations : can be done using one of two ways :

❑ **HEX value:** In CSS, a color can be specified using a hexadecimal value in the form:

#rrggbb

Where rr (red), gg (green) and bb (blue) are hexadecimal values between 00 and ff (same as decimal 0-255)

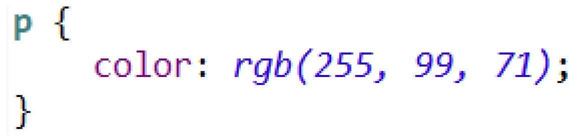


```
p {
    color: #ff6347;
}
```

❑ **RGB value:** In CSS, a color can be specified using an RGB value in the form:

rgb(red, green, blue)

Each parameter (red, green, and blue) defines the intensity of the color between 0 and 255



```
p {
    color: rgb(255, 99, 71);
}
```

CSS : CSS Background Color

To change the background color for HTML elements:

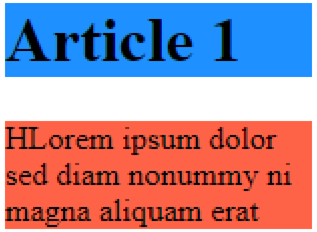
Use the CSS property: `background-color`

```
<body>
    <h1>
        Article 1
    </h1>
    <p>
        HLorem ipsum dolor <br/>
        sed diam nonummy ni<br/>
        magna aliquam erat <br/>
    </p>
</body>
```

+

```
h1 {
    background-color: dodgerblue;
}
p {
    background-color: rgb(255, 99, 71);
}
```

=



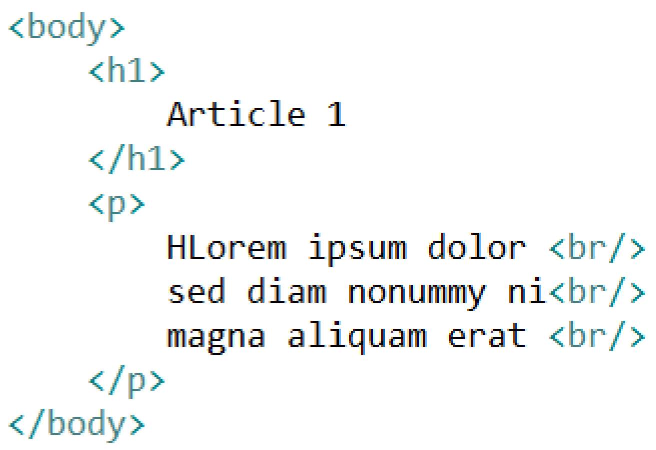
Article 1

HLorem ipsum dolor
sed diam nonummy ni
magna aliquam erat

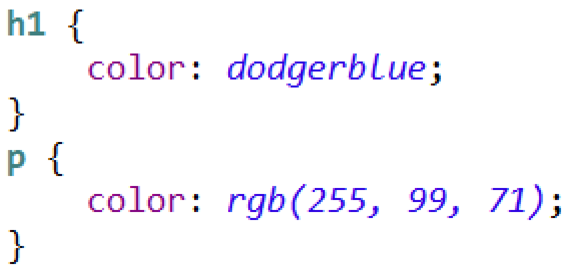
CSS : CSS Text Color

To change the color of the text:

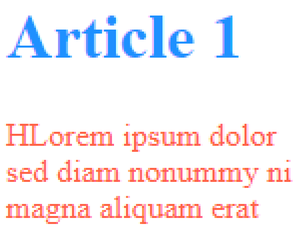
Use the CSS property: `color`



```
<body>
    <h1>
        Article 1
    </h1>
    <p>
        HLorem ipsum dolor <br/>
        sed diam nonummy ni<br/>
        magna aliquam erat <br/>
    </p>
</body>
```



```
h1 {
    color: dodgerblue;
}
p {
    color: rgb(255, 99, 71);
}
```



Article 1

HLorem ipsum dolor
sed diam nonummy ni
magna aliquam erat

CSS : CSS Border Color

To change the color of borders:

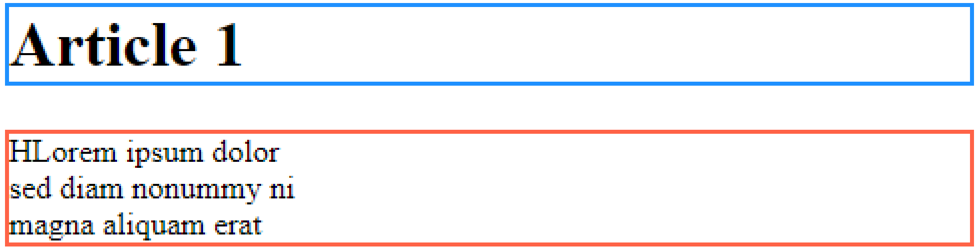
Add the color value as the 3rd value to the to the CSS property: `border`

```
<body>
    <h1>
        Article 1
    </h1>
    <p>
        HLorem ipsum dolor <br/>
        sed diam nonummy ni<br/>
        magna aliquam erat <br/>
    </p>
</body>
```

+

```
h1 {
    border: 2px solid dodgerblue;
}
p {
    border: 2px solid rgb(255, 99, 71);
}
```

=



Article 1

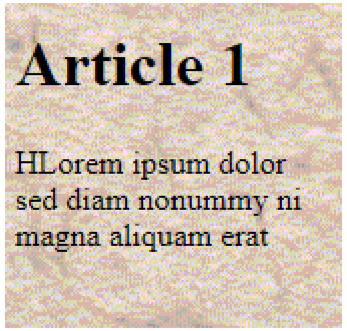
HLorem ipsum dolor
sed diam nonummy ni
magna aliquam erat

CSS : Backgrounds

The CSS background properties are used to add background effects for elements:

- `background-color` : specifies the background color of an element
- `Background-image` : specifies an image to use as the background of an element

```
body {
    background-image: url("paper.gif");
}
```

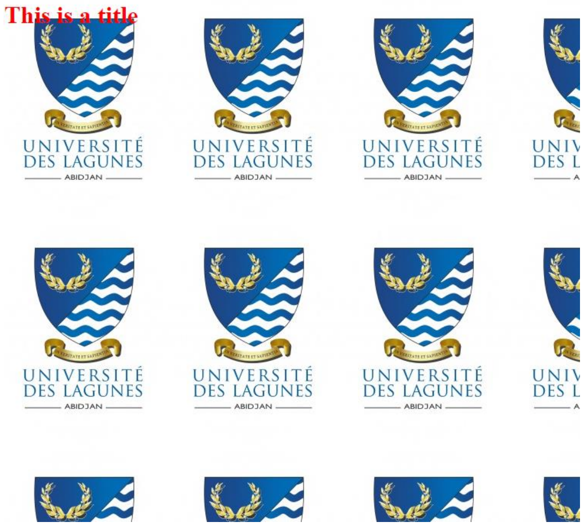


Article 1

HLorem ipsum dolor
sed diam nonummy ni
magna aliquam erat

By default, the background-image property repeats an image both horizontally and vertically !

```
body {
    background-image: url("images/udl logo.jpg");
}
h1 {
    font-size: 60;
    color: red;
}
```

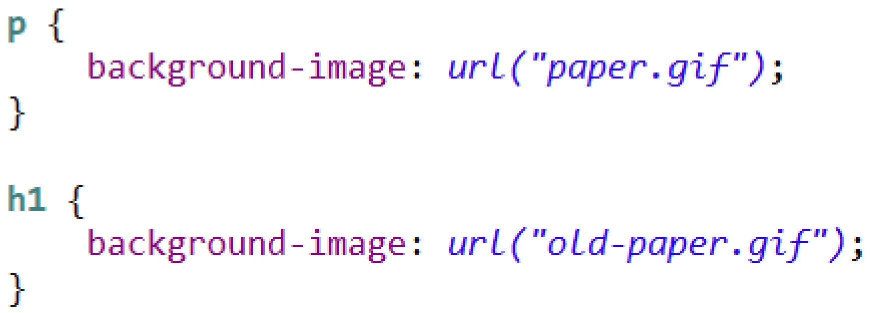


This is a title

CSS : Backgrounds

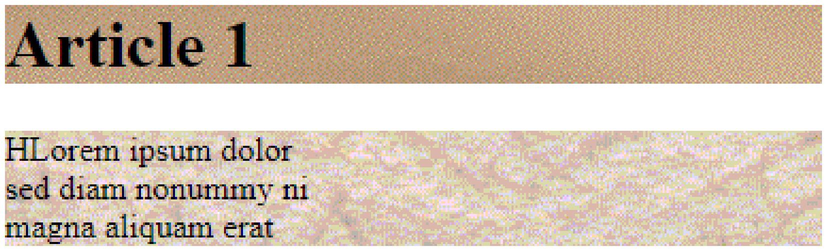
The background image can also be set for specific elements, for example to `<p>` and `<h1>`

elements :



```
p {
    background-image: url("paper.gif");
}

h1 {
    background-image: url("old-paper.gif");
}
```

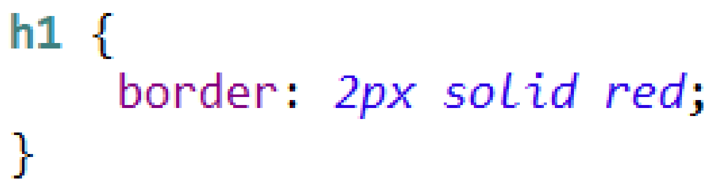


Article 1

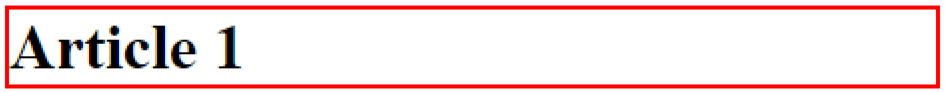
HLorem ipsum dolor
sed diam nonummy ni
magna aliquam erat

CSS : Borders

- The CSS border properties allow you to specify the style, width, and color of an element's border
- In this course, we will use the shorthand property !
- The syntax for the border property is:



```
h1 {
    border: 2px solid red;
}
```



Article 1

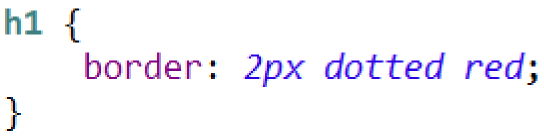
Where:

- The first value represents the size (thickness) of the border in pixels (ex: 10px)
- The second value represents the type of the border
- The third value represents the color of the border (can be name or RGB representation!)

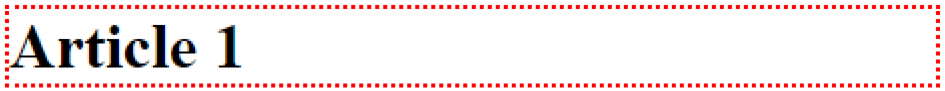
CSS : Borders

- The border type can be one of the following:

  - dotted - Defines a dotted border

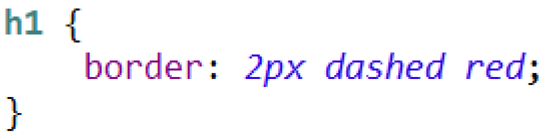


```
h1 {
    border: 2px dotted red;
}
```

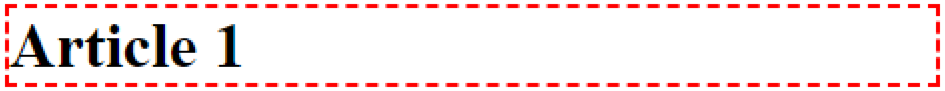


Article 1

  - dashed - Defines a dashed border

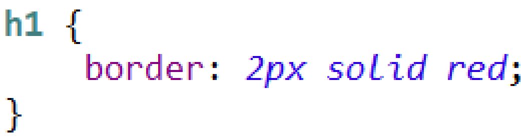


```
h1 {
    border: 2px dashed red;
}
```

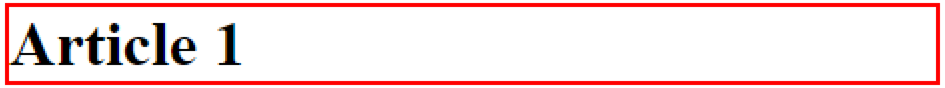


Article 1

  - solid - Defines a solid border

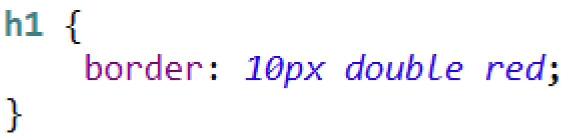


```
h1 {
    border: 2px solid red;
}
```

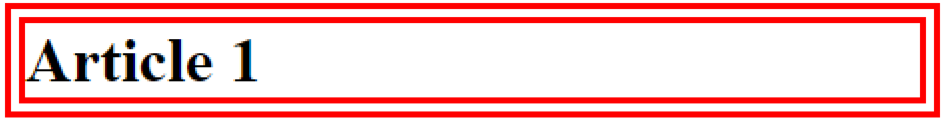


Article 1

  - double - Defines a double border



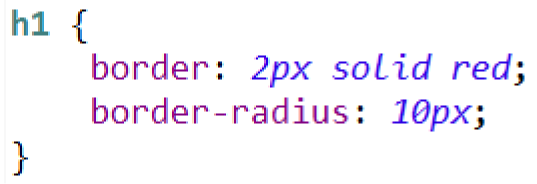
```
h1 {
    border: 10px double red;
}
```



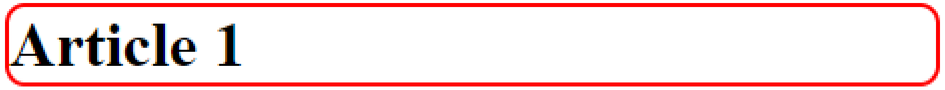
Article 1

CSS : Borders

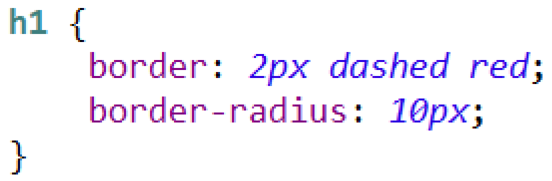
The `border-radius` property is used to add rounded borders to an element:



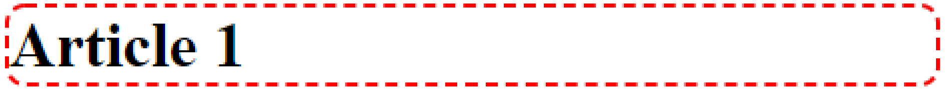
```
h1 {
    border: 2px solid red;
    border-radius: 10px;
}
```



Article 1



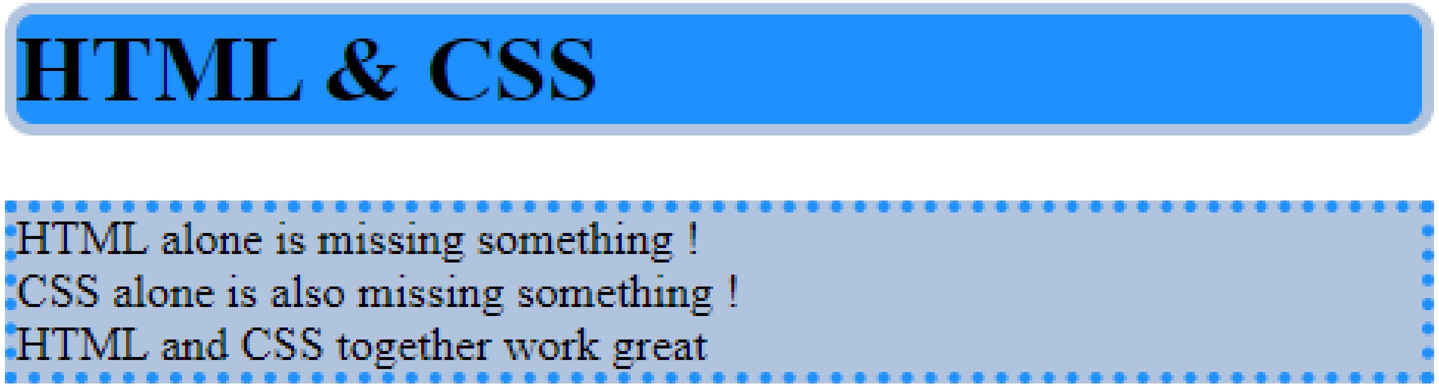
```
h1 {
    border: 2px dashed red;
    border-radius: 10px;
}
```



Article 1

CSS Colors, backgrounds and borders : Revision 1

Create the following web page:

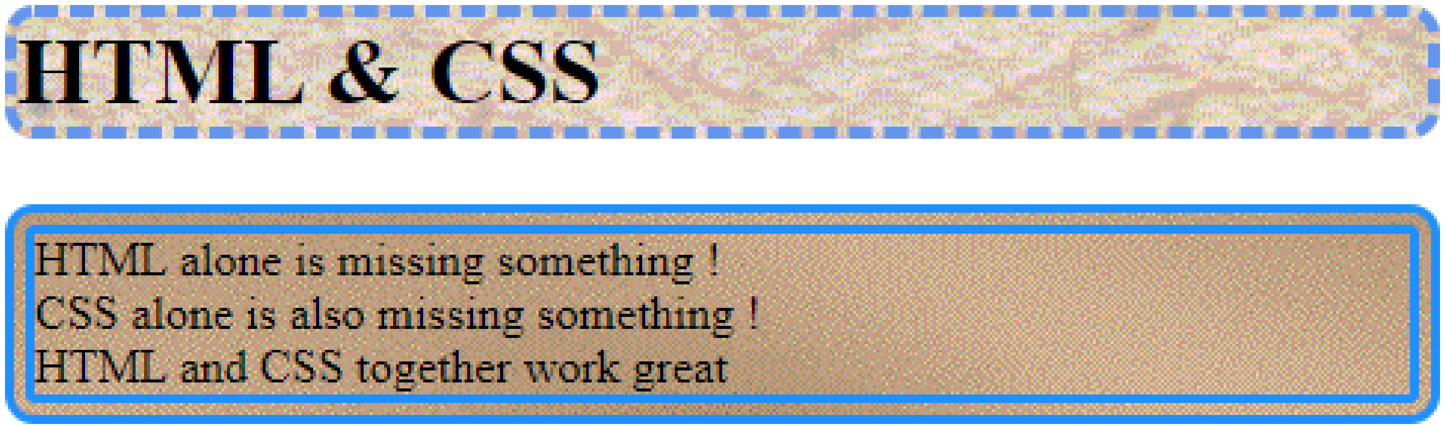


HTML & CSS

HTML alone is missing something !
CSS alone is also missing something !
HTML and CSS together work great

CSS Colors, backgrounds and borders : Revision 2

Create the following web page:



HTML & CSS

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CSS

CSS Topics :

- Definition and Motivation
- Syntax, selectors and style precedence
- Colors, backgrounds and borders
- <u>Box model</u>
- Text, links and lists
- Tables
- Divs

CSS : Margins

- The CSS `margin` properties are used to create space around elements, outside of any defined borders
- CSS has properties for specifying the margin for each side of an element:

❑ margin-top

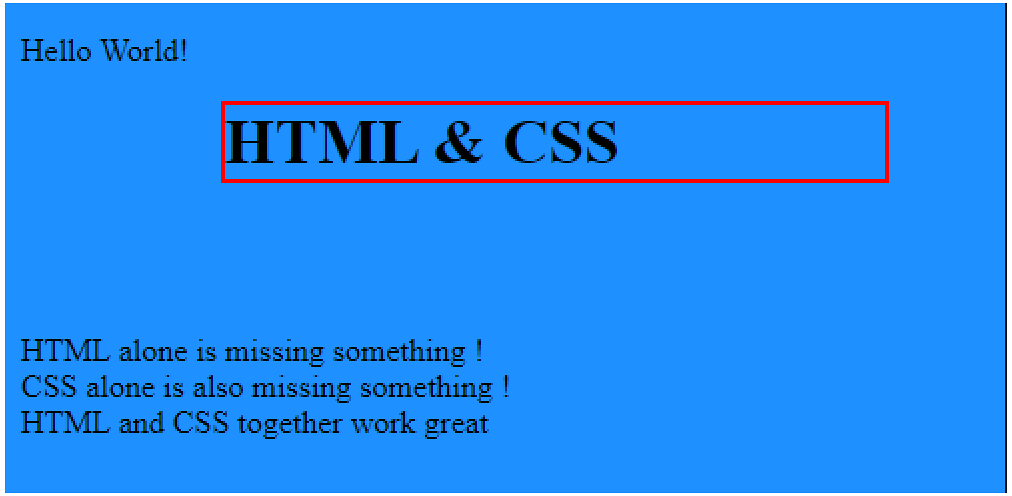
❑ margin-right

❑ margin-bottom

❑ margin-left

```
body {
    background-color: dodgerblue;
}

h1 {
    border: 2px solid 🟥 red;
    margin-top: 10px;
    margin-right: 50px;
    margin-bottom: 75px;
    margin-left: 100px;
}
```



Hello World!

HTML & CSS

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CSS : Margins

- The `margin` property is a shorthand property for the 4 individual margin properties

- Depending on the number of values:

CSS property	Meaning
`margin: 25px 50px 75px 100px;`	Top margin is 25px Right margin is 50px Bottom margin is 75px Left margin is 100px
`margin: 25px 50px 75px;`	Top margin is 25px Right and left margins are 50px Bottom margin is 75px
`margin: 25px 50px;`	Top and bottom margins are 25px Right and left margins are 50px
`margin: 25px;`	All 4 margins are 25px

CSS : Padding

- The CSS padding properties are used to generate space around an element's content, inside of any defined borders
- CSS has properties for specifying the padding for each side of an element:

❑ padding-top

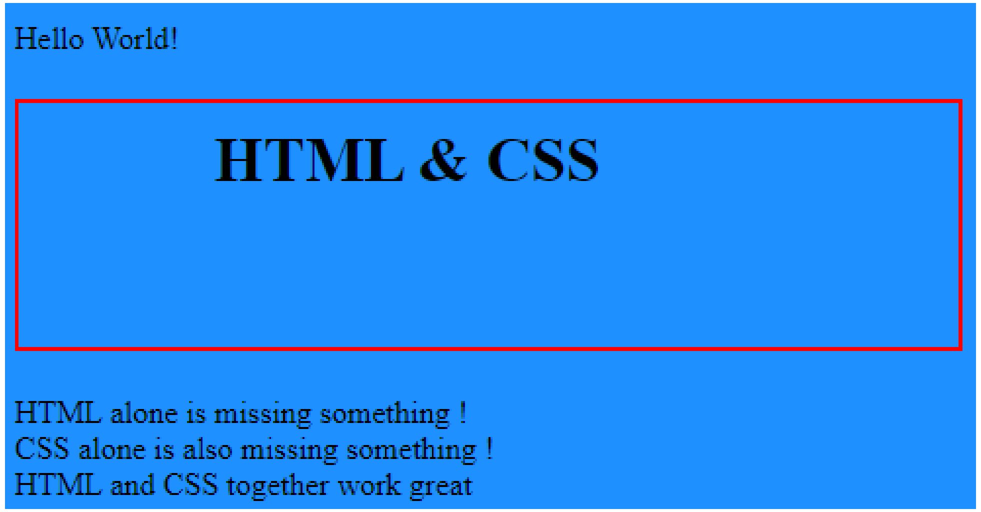
❑ padding-right

❑ padding-bottom

❑ padding-left

```
body {
    background-color: dodgerblue;
}

h1 {
    border: 2px solid 🟥 red;
    padding-top: 10px;
    padding-right: 50px;
    padding-bottom: 75px;
    padding-left: 100px;
}
```



Hello World!

HTML & CSS

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- The padding property is a shorthand property for the 4 individual padding properties
  - The same rules with the number of values applies as with margin

CSS : Height and width

- The CSS `height` and `width` properties are used to set the height and width of an element
- The height and width properties do not include padding, borders, or margins. It sets the height/width of the area inside the padding, border, and margin of the element
- The height and width properties may have the following values:

Value	Example	Meaning
Automatic value	`width: auto;`	This is default. The browser calculates the height and width
Fixed value	`width: 50px;`	Defines the height/width in pixels
Relative value	`width: 50%;`	Defines the height/width in percent of the containing block

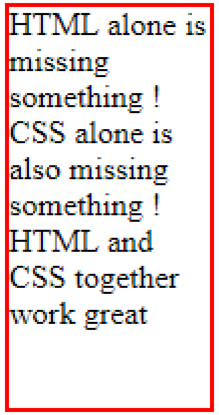
CSS : Height and width

```
<!DOCTYPE html>
<html>
    <head>
        <title>My page</title>
        <link rel="stylesheet" href="myStyle.css">
    </head>
    <body>
        <p>
            HTML alone is missing something !
            CSS alone is also missing something !
            HTML and CSS together work great
        </p>
    </body>
</html>
```

+

```
p {
    border: 2px solid red;
    width: 100px;
    height: 200px;
}
```

=

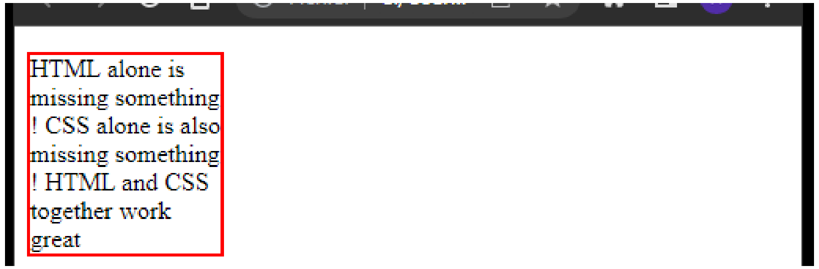


HTML alone is missing something ! CSS alone is also missing something ! HTML and CSS together work great

+

```
p {
    border: 2px solid red;
    width: 25%;
}
```

=



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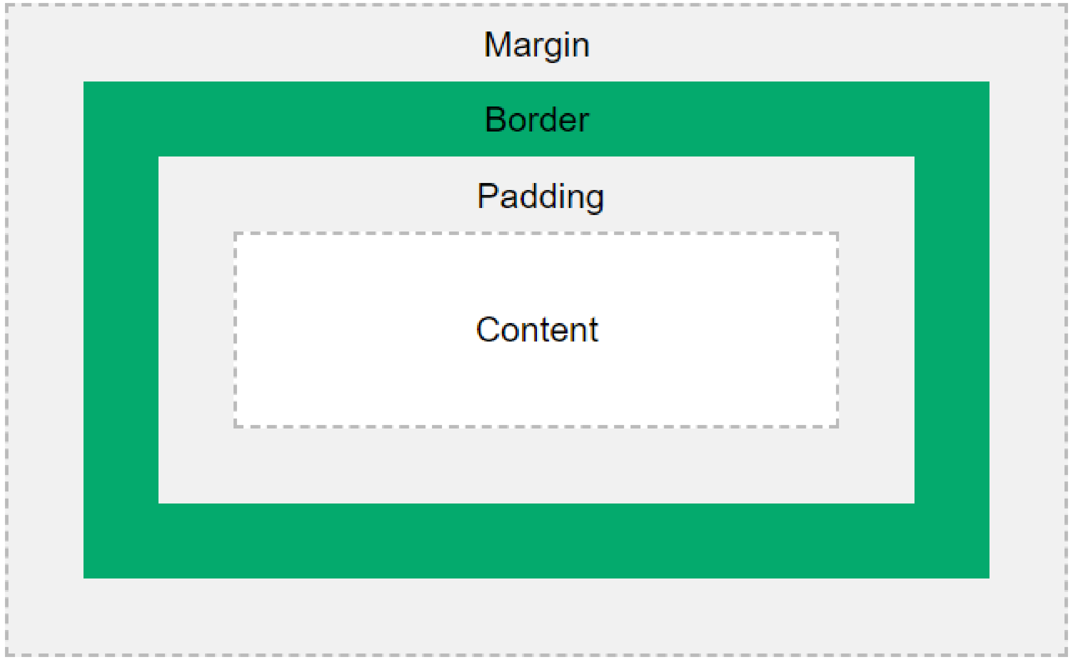
CSS : The CSS Box Model

- In CSS, the term "box model" is used when talking about design and layout
- The CSS box model is essentially a box that wraps around every HTML element. It consists of :

  margins, borders, padding, and the actual content



Content - The content of the box, where text and images appear

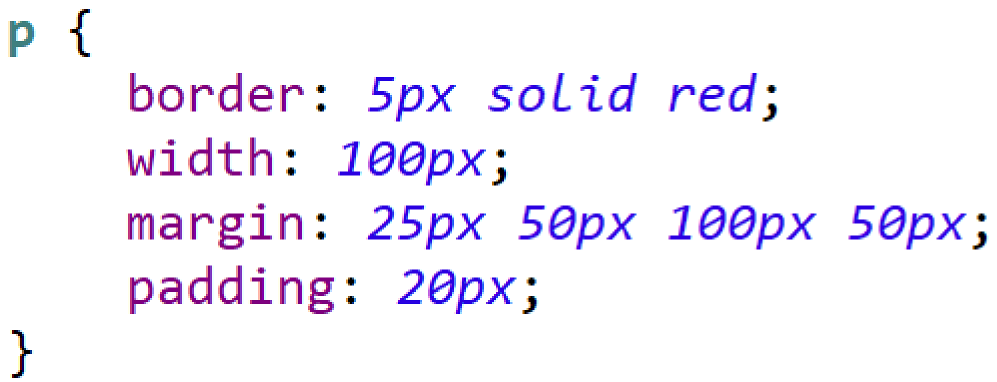
Padding - Clears an area around the content. The padding is transparent

Border - A border that goes around the padding and content

Margin - Clears an area outside the border. The margin is transparent

CSS Box Model : Revision 1

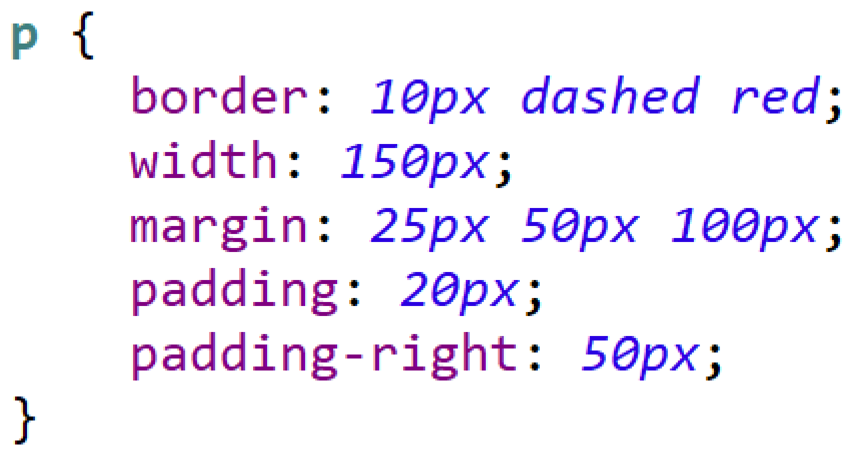
- Calculate the total width of the following element :



```css
p {
    border: 5px solid red;
    width: 100px;
    margin: 25px 50px 100px 50px;
    padding: 20px;
}
```

CSS Box Model : Revision 2

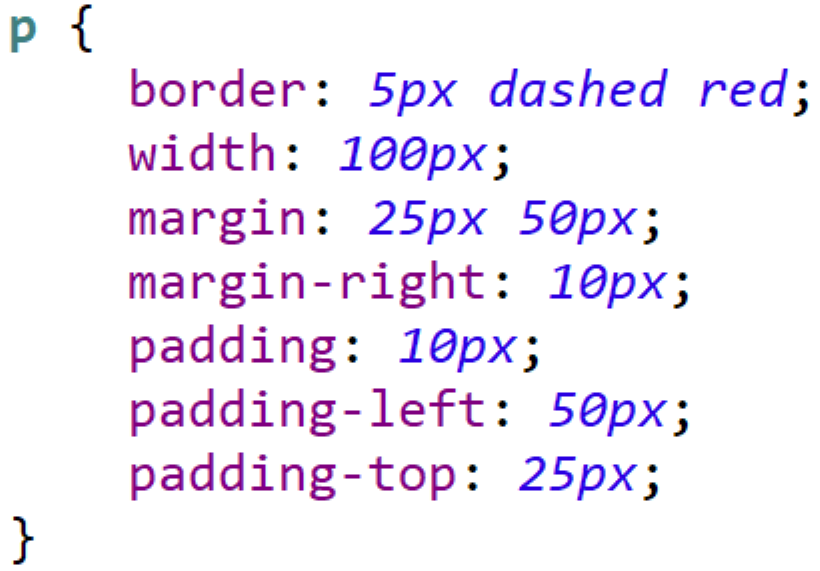
- Calculate the total width of the following element :



```
p {
    border: 10px dashed red;
    width: 150px;
    margin: 25px 50px 100px;
    padding: 20px;
    padding-right: 50px;
}
```

CSS Box Model : Revision 3

- Calculate the total width of the following element :



```
p {
    border: 5px dashed red;
    width: 100px;
    margin: 25px 50px;
    margin-right: 10px;
    padding: 10px;
    padding-left: 50px;
    padding-top: 25px;
}
```

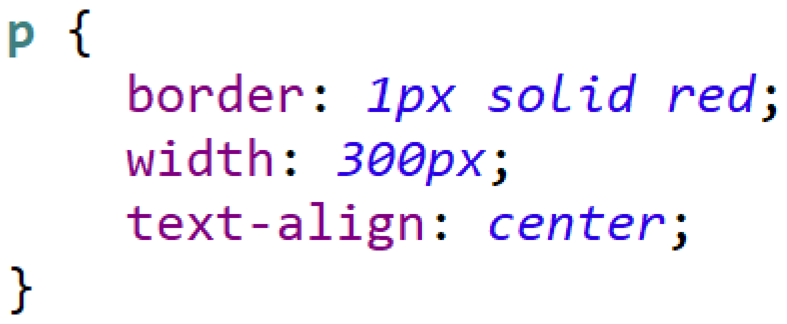
CSS

CSS Topics :

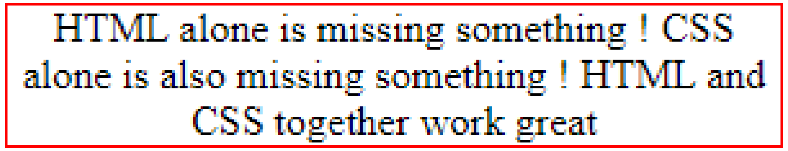
- Definition and Motivation
- Syntax, selectors and style precedence
- Colors, backgrounds and borders
- Box model
- Text, links and lists
- Tables
- Divs

CSS : Texts

- CSS has a lot of properties for formatting text
- The `color` property is used to set the color of the text
- The `text-align` property is used to set the horizontal alignment of a text
- The values for the align property can be `left`, `right`, `center` or `justify`



```css
p {
    border: 1px solid red;
    width: 300px;
    text-align: center;
}
```



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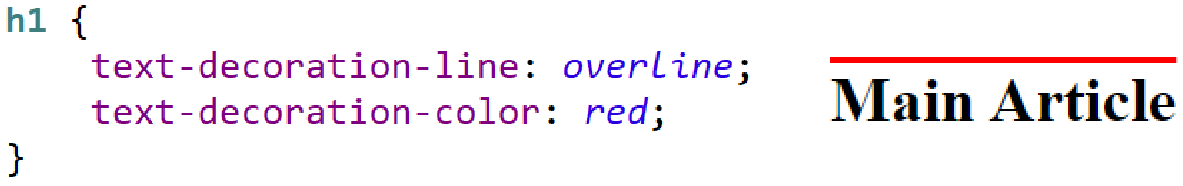
CSS : Texts

- The `text-decoration-line` property is used to add a decoration line to text

- The value can be `overline`, `underline`, or `line-through`

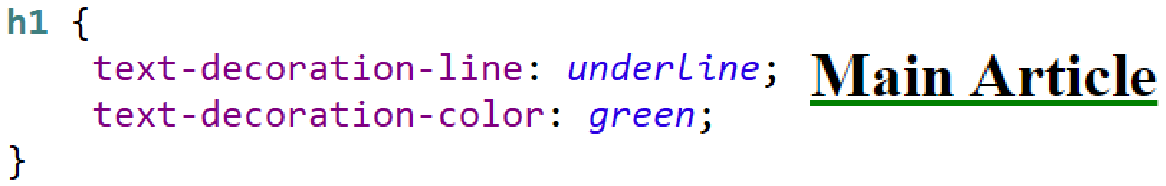
  Tip: You can combine more than one value, like overline and underline to display lines both over and under a text

- The `text-decoration-color` property is used to set the color of the decoration line.



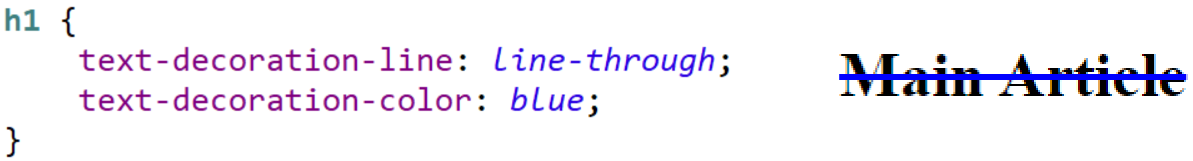
```
h1 {
    text-decoration-line: overline;
    text-decoration-color: red;
}
```

Main Article



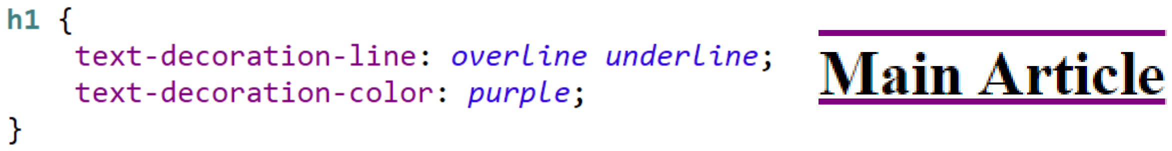
```
h1 {
    text-decoration-line: underline;
    text-decoration-color: green;
}
```

Main Article



```
h1 {
    text-decoration-line: line-through;
    text-decoration-color: blue;
}
```

Main Article



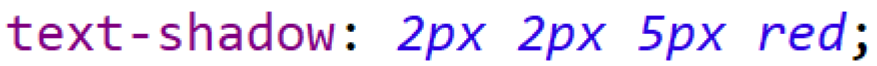
```
h1 {
    text-decoration-line: overline underline;
    text-decoration-color: purple;
}
```

Main Article

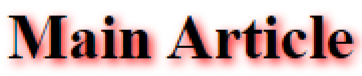
Note: It is not recommended to underline text that is not a link, as this often confuses the reader !

CSS : Texts

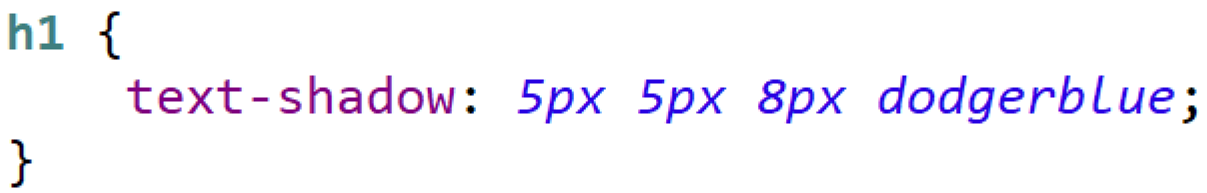
- The `text-shadow` property is used to add shadows to text



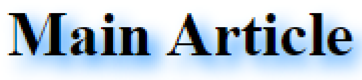
```
text-shadow: 2px 2px 5px red;
```



- The first value is the horizontal shadow
- The second value is the vertical shadow
- The third value is the blur effect size
- Finally, the color is selected using the fourth value



```
h1 {
    text-shadow: 5px 5px 8px dodgerblue;
}
```



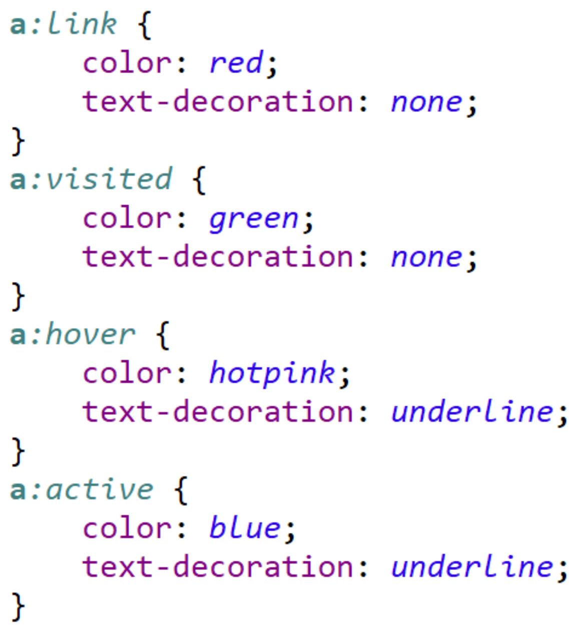
CSS : Links

- Links can be styled with any CSS property (ex. `color`, `font-family`, `background-color`, etc.)
- In addition, links can be styled differently depending on what state they are in.
- The four links states are:

Link state	Meaning
a:link	a normal, unvisited link
a:visited	a link the user has visited
a:hover	a link when the user mouses over it
a:active	a link the moment it is clicked

CSS : Links

- Important: When setting the style for several link states, there are some order rules:
  - ❑ `a:hover` MUST come after `a:link` and `a:visited`
  - ❑ `a:active` MUST come after `a:hover`
- The `text-decoration` property is mostly used to remove underlines from links

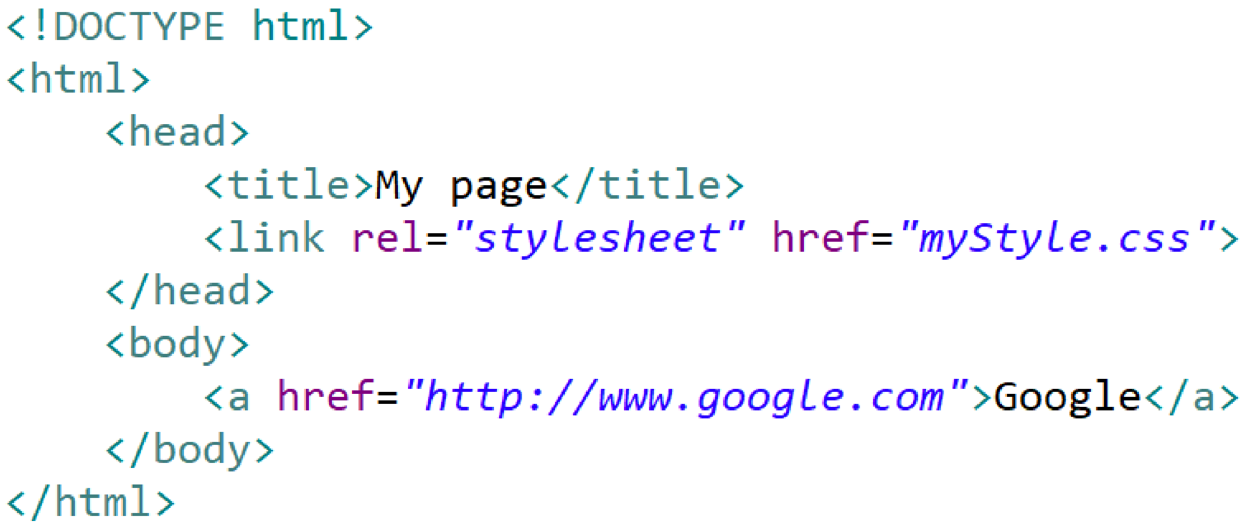


```css
a:link {
    color: red;
    text-decoration: none;
}
a:visited {
    color: green;
    text-decoration: none;
}
a:hover {
    color: hotpink;
    text-decoration: underline;
}
a:active {
    color: blue;
    text-decoration: underline;
}
```

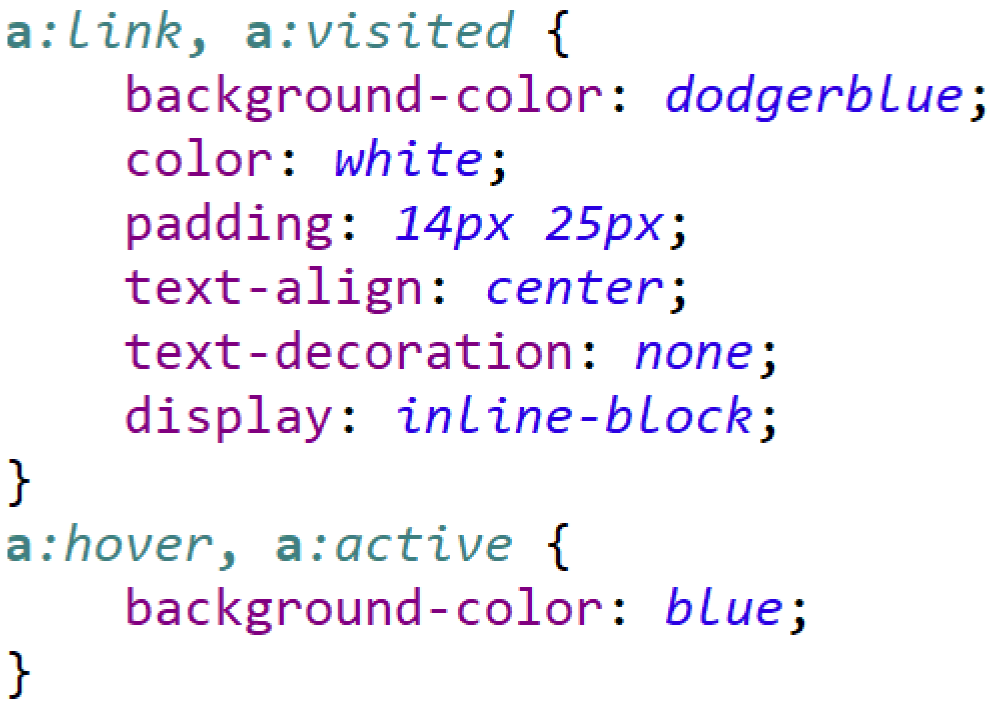
CSS Links : advanced examples 1

This example demonstrates a more advanced example where we combine several CSS properties

to display links as buttons :



```
<!DOCTYPE html>
<html>
    <head>
        <title>My page</title>
        <link rel="stylesheet" href="myStyle.css">
    </head>
    <body>
        <a href="http://www.google.com">Google</a>
    </body>
</html>
```

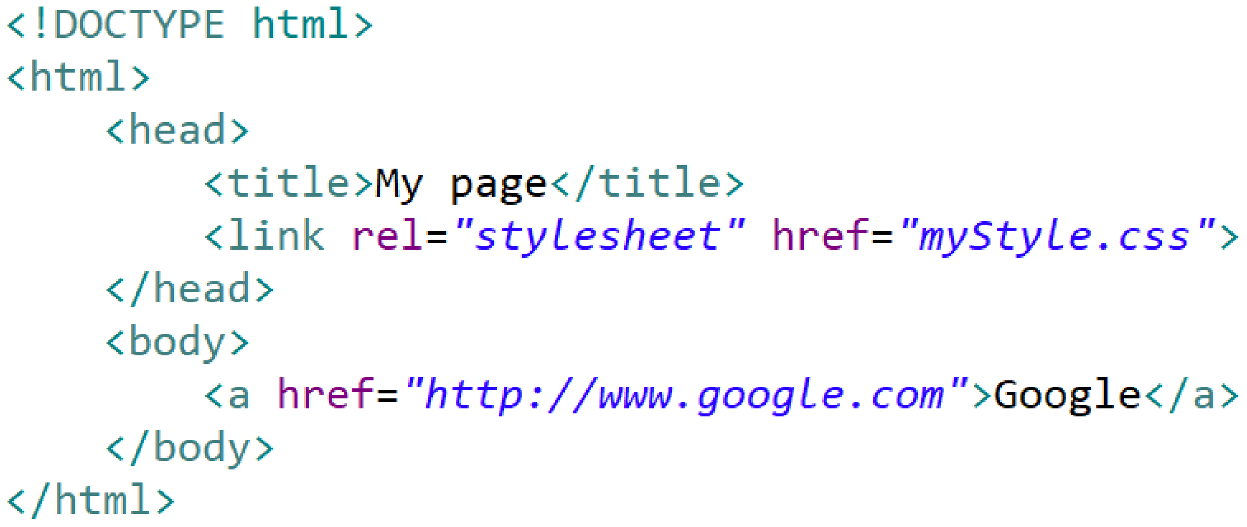


```
a:link, a:visited {
    background-color: dodgerblue;
    color: white;
    padding: 14px 25px;
    text-align: center;
    text-decoration: none;
    display: inline-block;
}
a:hover, a:active {
    background-color: blue;
}
```

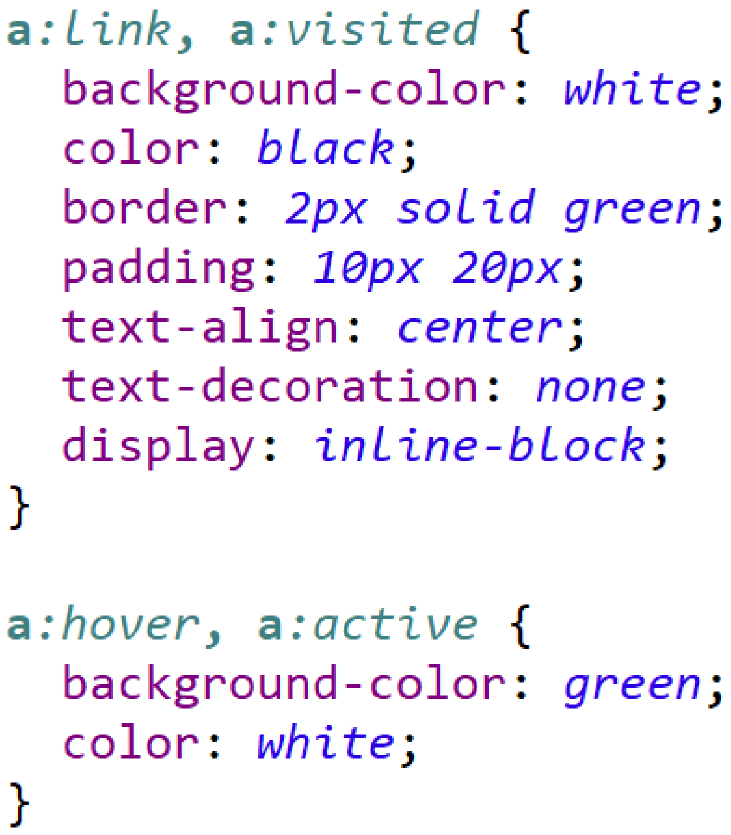
CSS Links : advanced examples 2

This example demonstrates a more advanced example where we combine several CSS properties

to display links as buttons :



```html
<!DOCTYPE html>
<html>
    <head>
        <title>My page</title>
        <link rel="stylesheet" href="myStyle.css">
    </head>
    <body>
        <a href="http://www.google.com">Google</a>
    </body>
</html>
```



```css
a:link, a:visited {
  background-color: white;
  color: black;
  border: 2px solid green;
  padding: 10px 20px;
  text-align: center;
  text-decoration: none;
  display: inline-block;
}

a:hover, a:active {
  background-color: green;
  color: white;
}
```

CSS : Lists

- In HTML, there are two main types of lists:

  - ❑ unordered lists `<ul>` : the list items are marked with bullets

  - ❑ ordered lists `<ol>` : the list items are marked with numbers or letters

- The CSS list properties allow you to:

  - ❑ Set different list item markers for ordered lists

  - ❑ Set different list item markers for unordered lists

  - ❑ Set an image as the list item marker

  - ❑ Add background colors to lists and list items

CSS : Lists

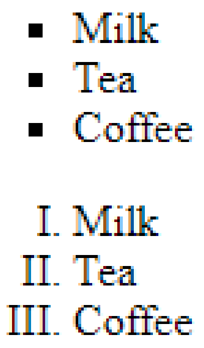
- The `list-style-type` property specifies the type of list item marker :
  - ❑ The values for unordered lists can be `circle`, `square`, `disc` or `none`
  - ❑ The values for ordered lists can be `decimal`, `lower-alpha`, `upper-alpha`, `lower-roman`, `upper-roman`, or `none`

```
<body>
    <ul>
        <li>Milk</li>
        <li>Tea</li>
        <li>Coffee</li>
    </ul>
    <ol>
        <li>Milk</li>
        <li>Tea</li>
        <li>Coffee</li>
    </ol>
</body>
```

+

```
ul {
  list-style-type: square;
}

ol {
  list-style-type: upper-roman;
}
```

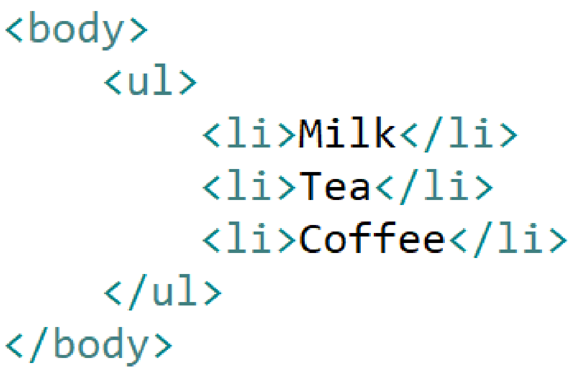
=



```
▪ Milk
▪ Tea
▪ Coffee

  I. Milk
 II. Tea
III. Coffee
```

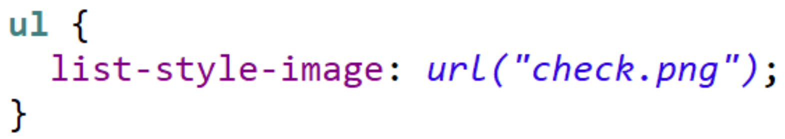
CSS : Lists

- The `list-style-image` property specifies an image as the list item marker



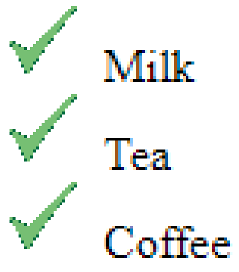
```
<body>
    <ul>
        <li>Milk</li>
        <li>Tea</li>
        <li>Coffee</li>
    </ul>
</body>
```

+



```
ul {
  list-style-image: url("check.png");
}
```

=



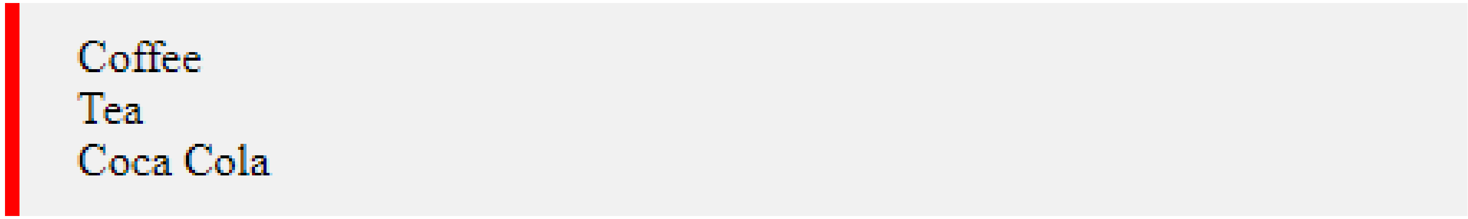
✓ Milk

✓ Tea

✓ Coffee

CSS Lists : Revision 1

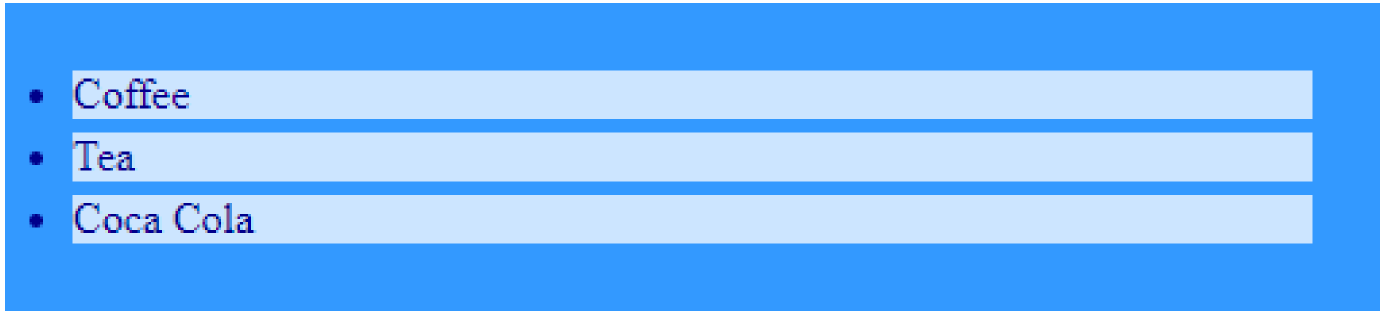
- Create the following unordered list :



Coffee
Tea
Coca Cola

CSS Lists : Revision 2

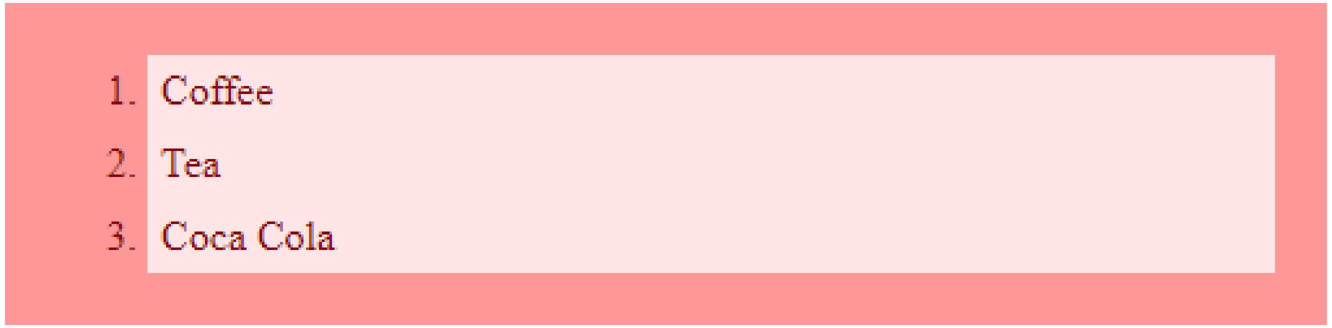
- Create the following unordered list :



- Coffee
- Tea
- Coca Cola

CSS Lists : Revision 3

- Create the following ordered list :



1. Coffee
2. Tea
3. Coca Cola

CSS

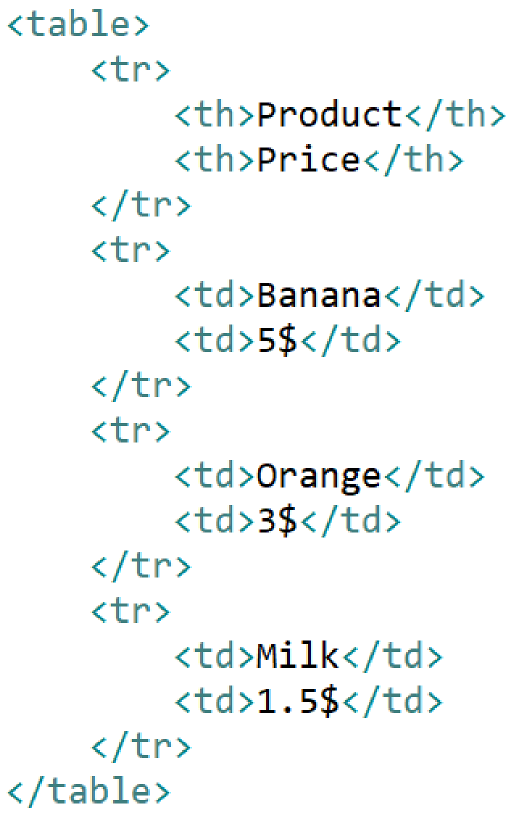
CSS Topics :

- Definition and Motivation
- Syntax, selectors and style precedence
- Colors, backgrounds and borders
- Box model
- Text, links and lists
- Tables
- Divs

CSS : Table border

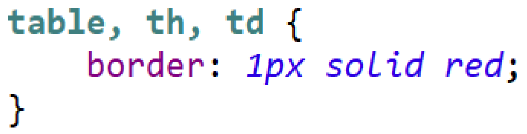
- The border property specifies the border of a table

- The following example specifies a solid border for `<table>`, `<th>`, and `<td>` elements :



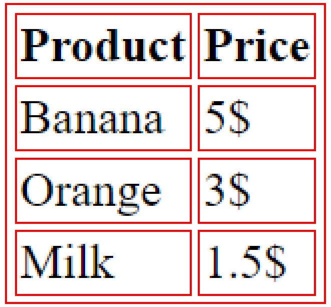
```html
<table>
    <tr>
        <th>Product</th>
        <th>Price</th>
    </tr>
    <tr>
        <td>Banana</td>
        <td>5$</td>
    </tr>
    <tr>
        <td>Orange</td>
        <td>3$</td>
    </tr>
    <tr>
        <td>Milk</td>
        <td>1.5$</td>
    </tr>
</table>
```

+



```css
table, th, td {
    border: 1px solid red;
}
```

=

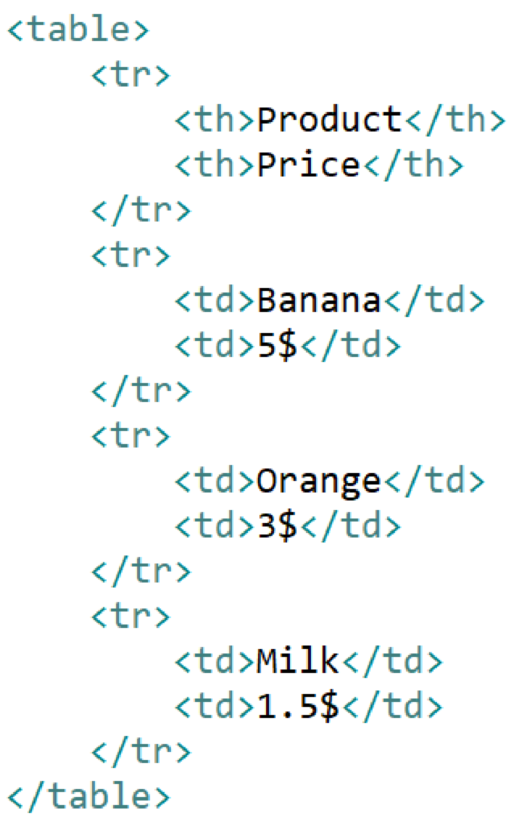


Product	Price
Banana	5$
Orange	3$
Milk	1.5$

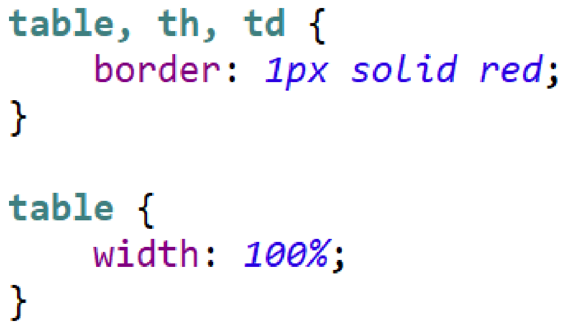
CSS : Table border

- The previous example generates a table that is small in some cases

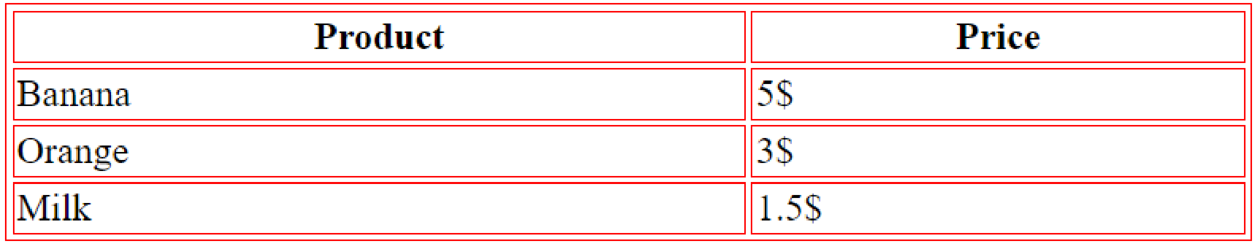
- To set the table to span the entire screen, add `width: 100%` to the table element :



```
<table>
    <tr>
        <th>Product</th>
        <th>Price</th>
    </tr>
    <tr>
        <td>Banana</td>
        <td>5$</td>
    </tr>
    <tr>
        <td>Orange</td>
        <td>3$</td>
    </tr>
    <tr>
        <td>Milk</td>
        <td>1.5$</td>
    </tr>
</table>
```



```
table, th, td {
    border: 1px solid red;
}

table {
    width: 100%;
}
```



Product	Price
Banana	5$
Orange	3$
Milk	1.5$

CSS : Table border

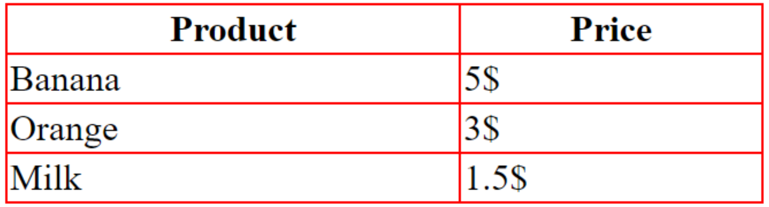
- The table in the previous example have double borders
- This is because each of `<table>`, `<th>`, and `<td>` elements have separate borders
- The `border-collapse` property sets whether the table borders should be collapsed into a single border

```
<table>
    <tr>
        <th>Product</th>
        <th>Price</th>
    </tr>
    <tr>
        <td>Banana</td>
        <td>5$</td>
    </tr>
    <tr>
        <td>Orange</td>
        <td>3$</td>
    </tr>
    <tr>
        <td>Milk</td>
        <td>1.5$</td>
    </tr>
</table>
```

+

```
table, th, td {
    border: 1px solid red;
}

table {
    width: 100%;
    border-collapse: collapse;
}
```

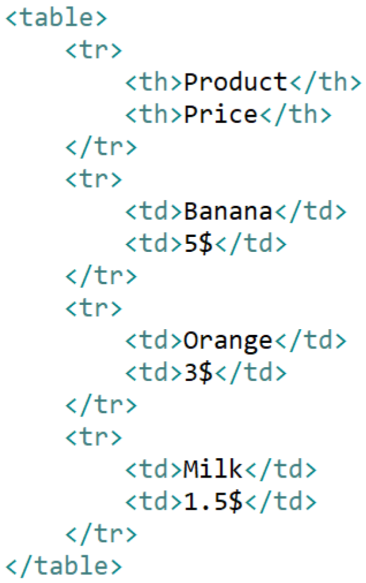
=



Product	Price
Banana	5$
Orange	3$
Milk	1.5$

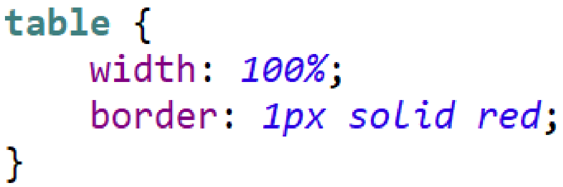
CSS : Table border

- If you want only a border around the table, only specify the `border` property for `<table>`:



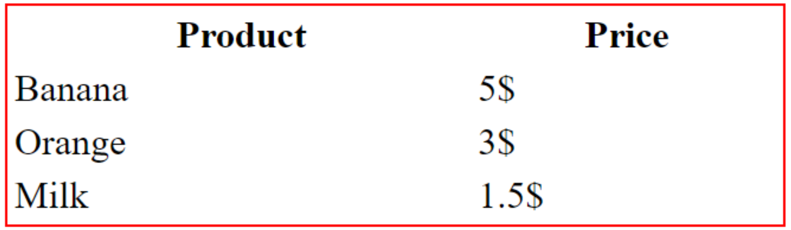
```
<table>
    <tr>
        <th>Product</th>
        <th>Price</th>
    </tr>
    <tr>
        <td>Banana</td>
        <td>5$</td>
    </tr>
    <tr>
        <td>Orange</td>
        <td>3$</td>
    </tr>
    <tr>
        <td>Milk</td>
        <td>1.5$</td>
    </tr>
</table>
```

+



```
table {
    width: 100%;
    border: 1px solid red;
}
```

=



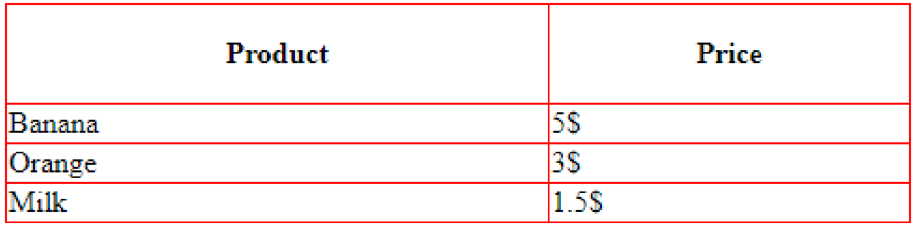
Product	Price
Banana	5$
Orange	3$
Milk	1.5$

CSS : Table size

- The width and height of a table are defined by the `width` and `height` properties

```html
<table>
    <tr>
        <th>Product</th>
        <th>Price</th>
    </tr>
    <tr>
        <td>Banana</td>
        <td>5$</td>
    </tr>
    <tr>
        <td>Orange</td>
        <td>3$</td>
    </tr>
    <tr>
        <td>Milk</td>
        <td>1.5$</td>
    </tr>
</table>
```

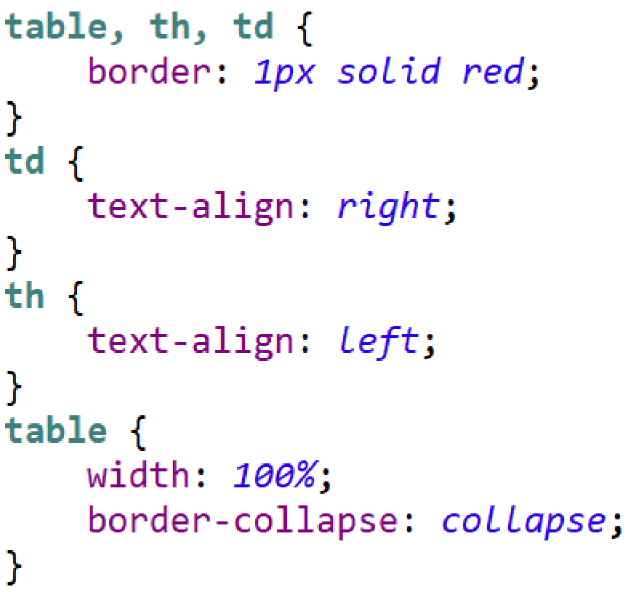
```css
table, th, td {
    border: 1px solid red;
}
th {
    height: 50px;
}
table {
    width: 100%;
    border-collapse: collapse;
}
```



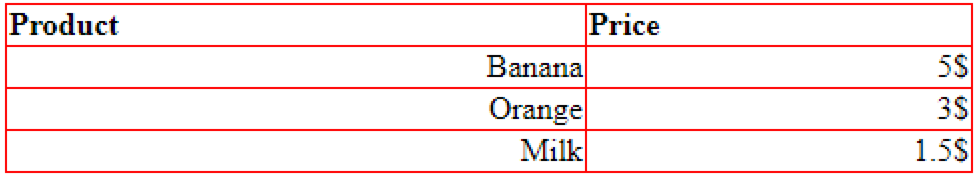
Product	Price
Banana	5$
Orange	3$
Milk	1.5$

CSS : Table text horizontal alignment

- The `text-align` property sets the horizontal alignment of the content in `<th>` or `<td>`
- The values for the `text-align` property can be `left`, `right`, or `center`
- By default, the content of `<th>` elements are `center` aligned and the content of `<td>` elements are `left` aligned



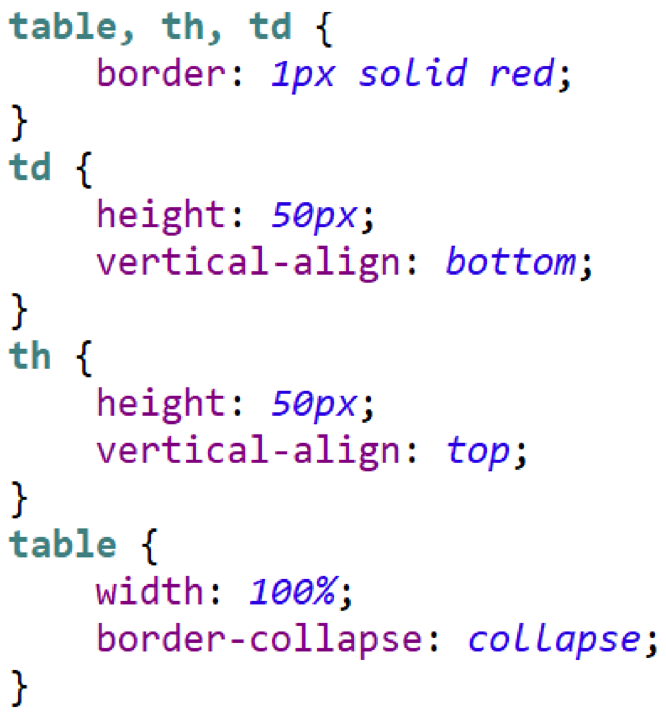
```
table, th, td {
    border: 1px solid red;
}
td {
    text-align: right;
}
th {
    text-align: left;
}
table {
    width: 100%;
    border-collapse: collapse;
}
```



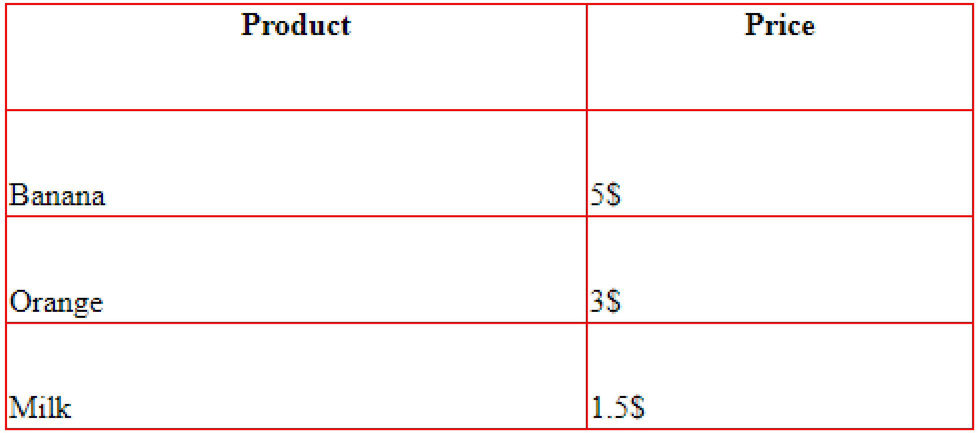
Product	Price
Banana	5$
Orange	3$
Milk	1.5$

CSS : Table text vertical alignment

- The `vertical-align` property sets the vertical alignment of the content in `<th>` or `<td>`
- The values for the `vertical-align` property can be `top`, `middle`, or `bottom`
- By default, the vertical alignment for the contents of both `<th>` and `<td>` elements is `middle`



```
table, th, td {
    border: 1px solid red;
}
td {
    height: 50px;
    vertical-align: bottom;
}
th {
    height: 50px;
    vertical-align: top;
}
table {
    width: 100%;
    border-collapse: collapse;
}
```

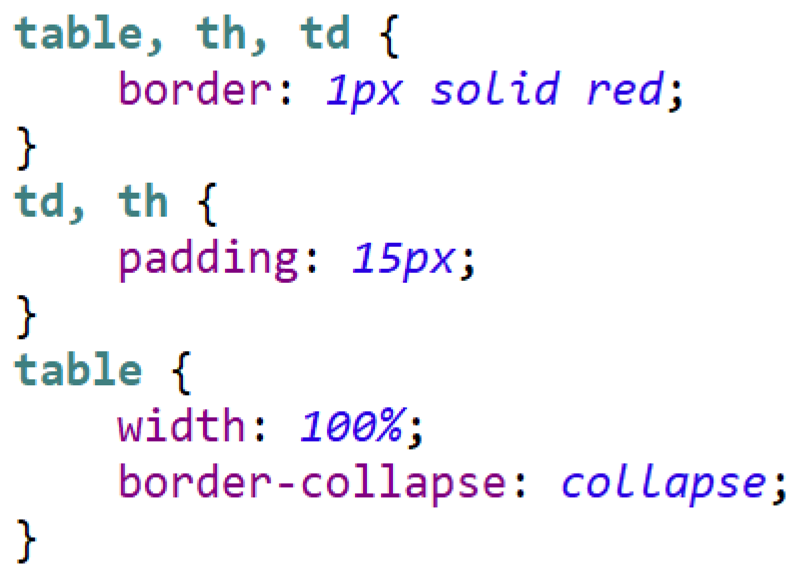


Product	Price
Banana	5$
Orange	3$
Milk	1.5$

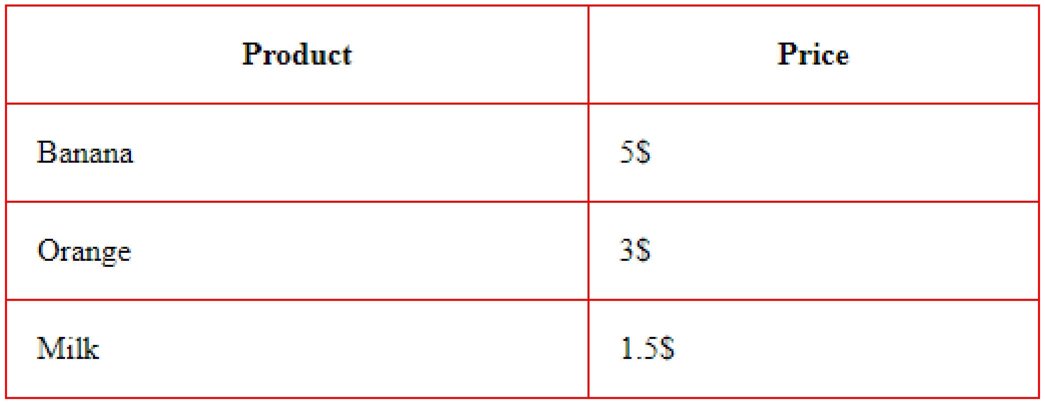
CSS : Table style

- To control the space between the border and the content in a table, use the padding property

  on <th> and <td> elements:



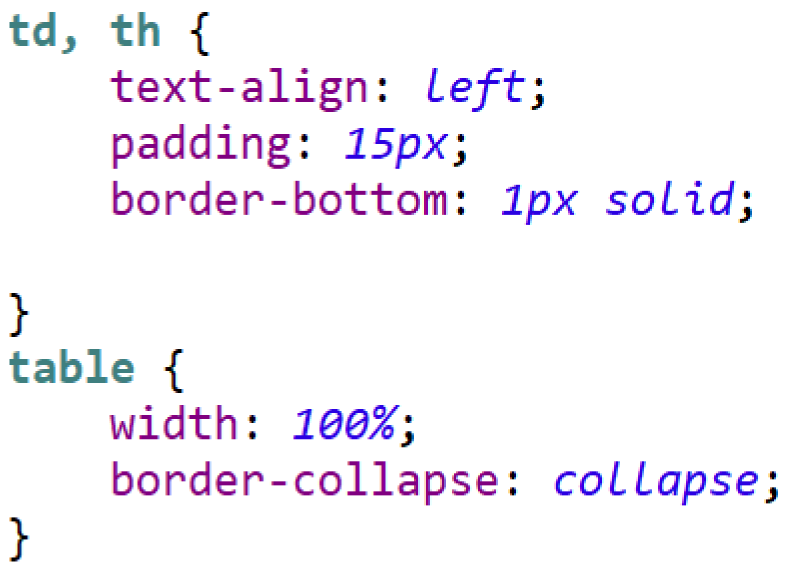
```
table, th, td {
    border: 1px solid red;
}
td, th {
    padding: 15px;
}
table {
    width: 100%;
    border-collapse: collapse;
}
```



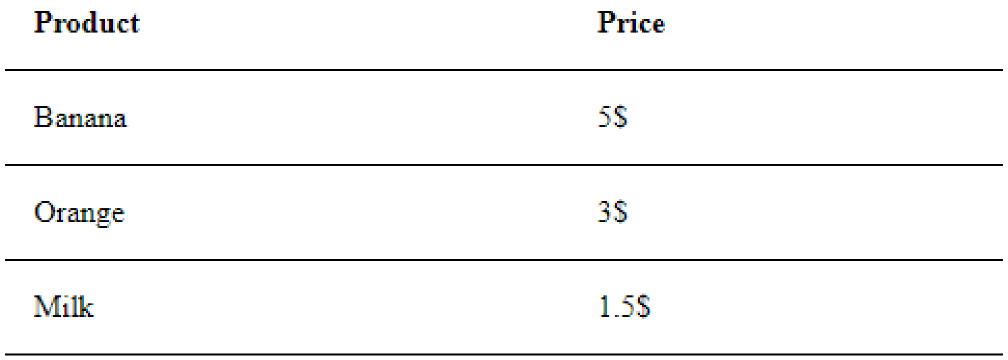
Product	Price
Banana	5$
Orange	3$
Milk	1.5$

CSS : Table style

- To add horizontal dividers, use the `border-bottom` property on `<th>` and `<td>` elements:



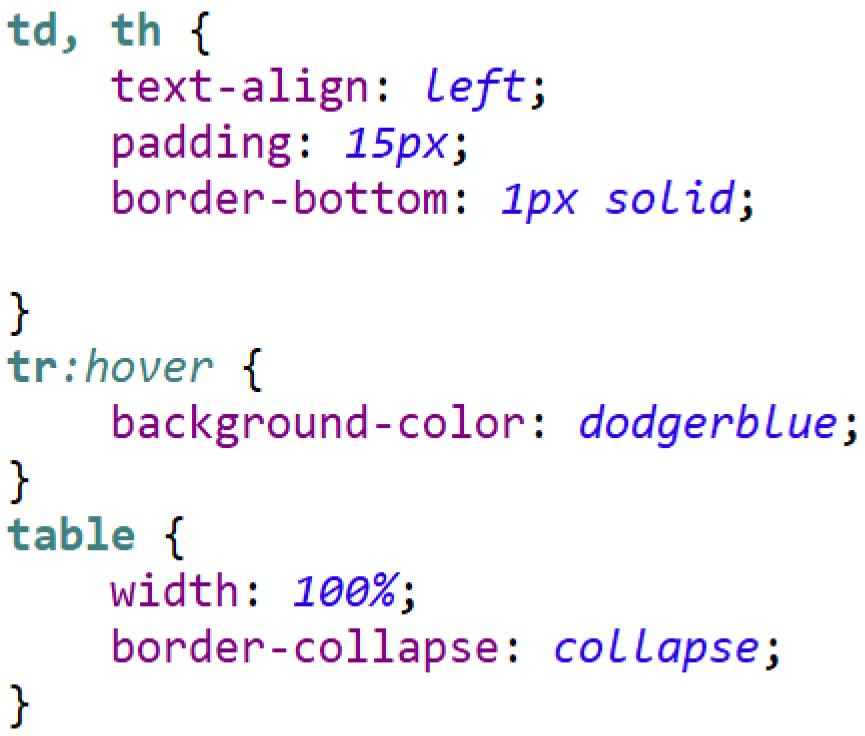
```
td, th {
    text-align: left;
    padding: 15px;
    border-bottom: 1px solid;

}
table {
    width: 100%;
    border-collapse: collapse;
}
```



Product	Price
Banana	5$
Orange	3$
Milk	1.5$

CSS : Table style

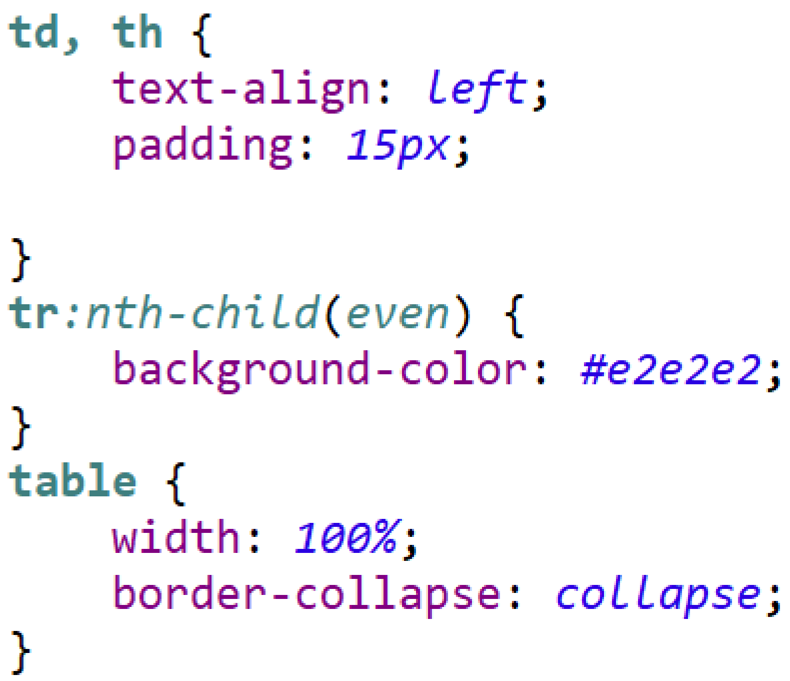
- Use the `:hover` selector on `<tr>` to highlight table rows on mouse over:



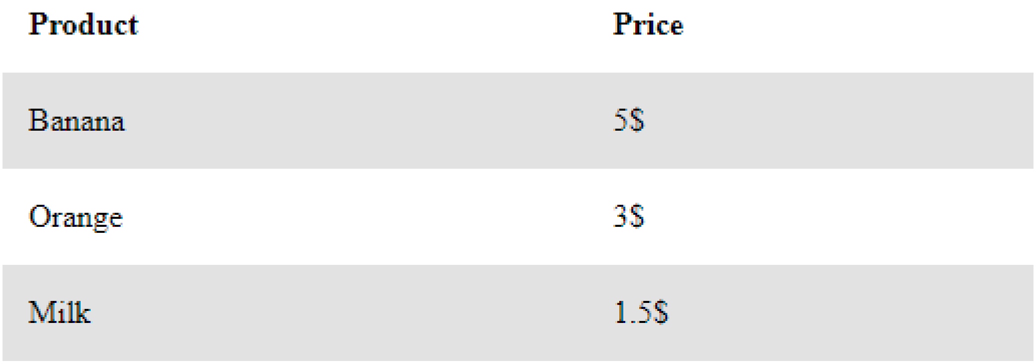
```
td, th {
    text-align: left;
    padding: 15px;
    border-bottom: 1px solid;

}
tr:hover {
    background-color: dodgerblue;
}
table {
    width: 100%;
    border-collapse: collapse;
}
```

CSS : Table style

- For zebra-striped tables, use the nth-child() selector and add a background-color to all even (or odd) table rows



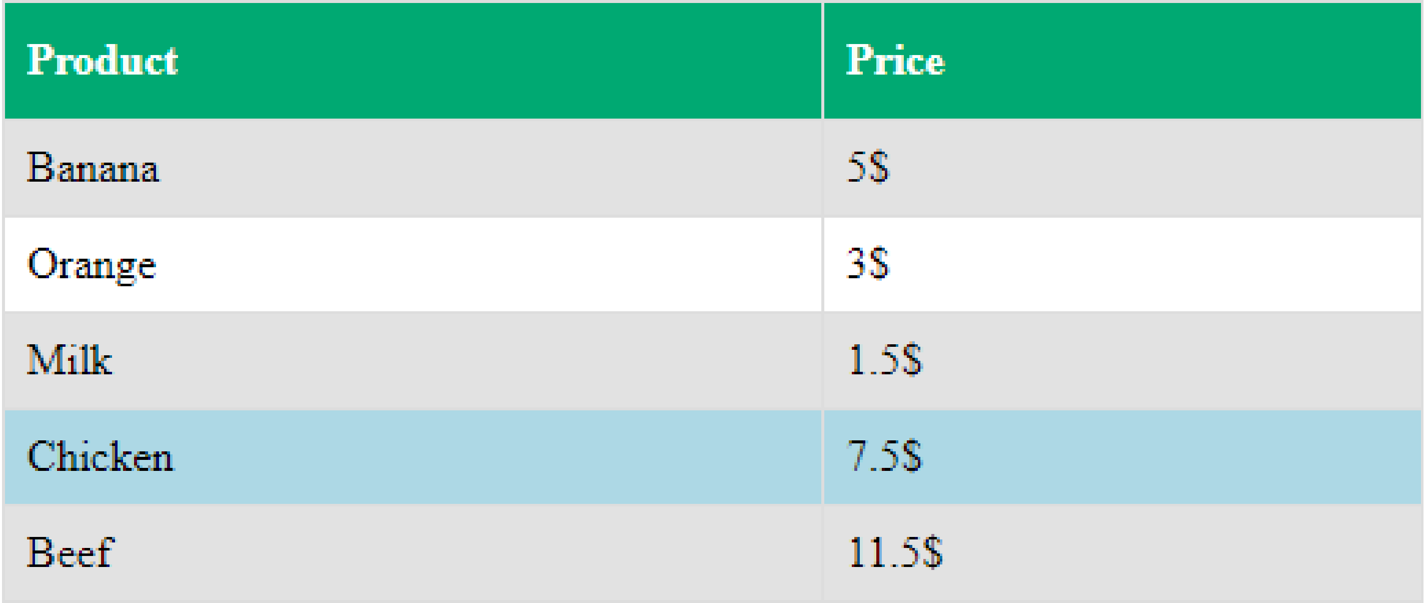
```
td, th {
    text-align: left;
    padding: 15px;

}
tr:nth-child(even) {
    background-color: #e2e2e2;
}
table {
    width: 100%;
    border-collapse: collapse;
}
```



Product	Price
Banana	5$
Orange	3$
Milk	1.5$

CSS Tables: Revision 1

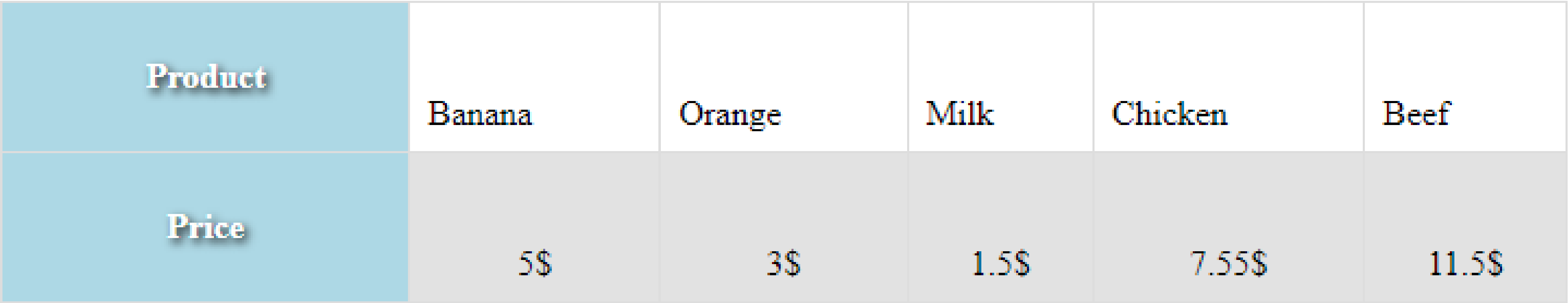
- Create the following table



Product	Price
Banana	5$
Orange	3$
Milk	1.5$
Chicken	7.5$
Beef	11.5$

CSS Tables: Revision 2

- Create the following table



Product	Banana	Orange	Milk	Chicken	Beef
Price	5$	3$	1.5$	7.55$	11.5$

CSS

CSS Topics :

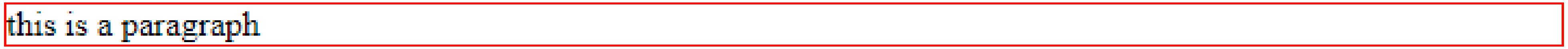
- Definition and Motivation
- Syntax, selectors and style precedence
- Colors, backgrounds and borders
- Box model
- Text, links and lists
- Tables
- <u>Divs</u>

CSS : Display

- The `display` property is the most important CSS property for controlling layout
- It specifies how an element is displayed
- Every HTML element has a default `display` value depending on what type of element it is
- The default value for most elements is `block` or `inline`

CSS : Block-level elements

- A **block-level** element always starts on a new line and takes up the full width available (stretches out to the left and right as far as it can)
- Examples of block-level elements:
  - `<div>`
  - `<h1>-<h6>`
  - `<p>`
  - `<section>`



this is a paragraph

CSS : Inline elements

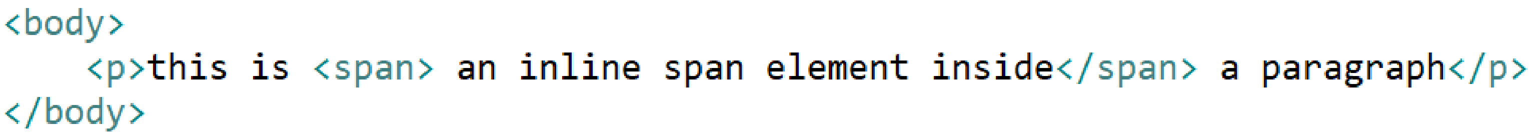
- An **inline** element doesn’t start on a new line and only takes up as much width as necessary

- Examples of block-level elements:

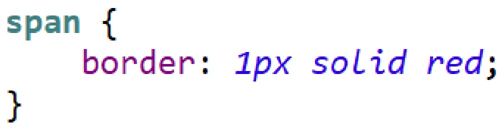
  - `<span>`

  - `<a>`

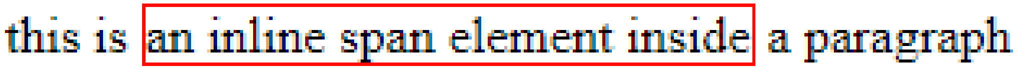
  - `<img>`



```
<body>
    <p>this is <span> an inline span element inside</span> a paragraph</p>
</body>
```



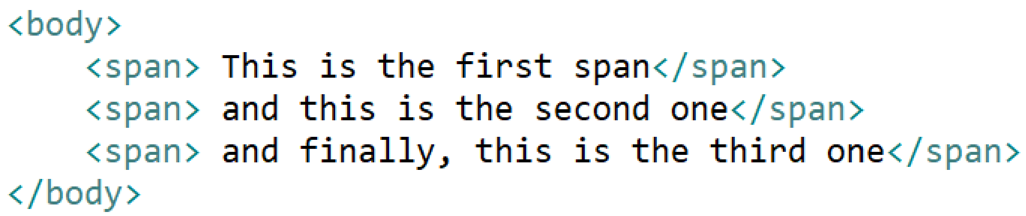
```
span {
    border: 1px solid red;
}
```



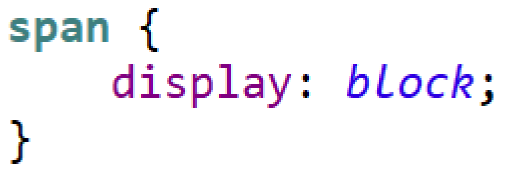
this is an inline span element inside a paragraph

CSS : Display

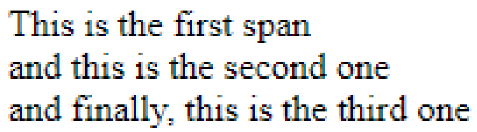
- To change the default `display` property value for an element :



```
<body>
    <span> This is the first span</span>
    <span> and this is the second one</span>
    <span> and finally, this is the third one</span>
</body>
```



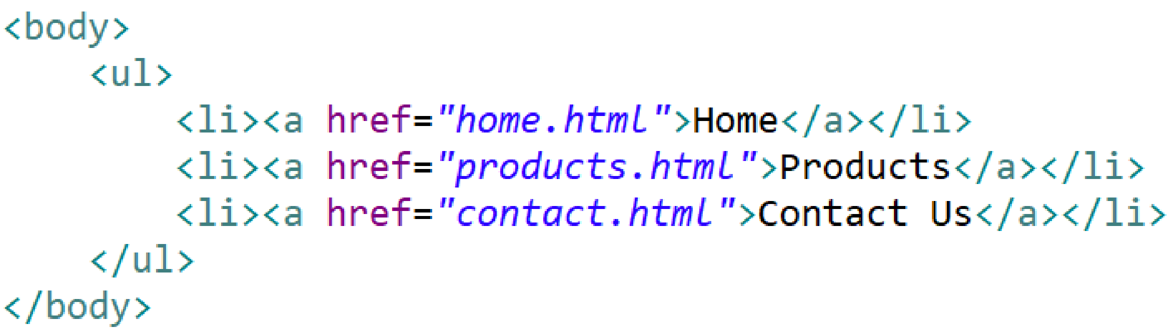
```
span {
    display: block;
}
```



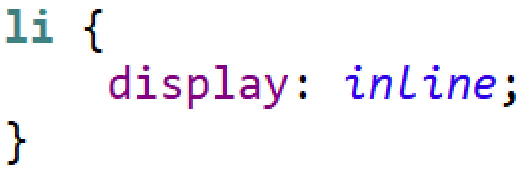
```
This is the first span
and this is the second one
and finally, this is the third one
```

CSS : Display

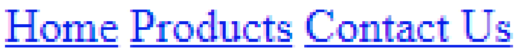
- A common example for changing the `display` property is making inline `<li>` elements for horizontal menus :



```
<body>
    <ul>
        <li><a href="home.html">Home</a></li>
        <li><a href="products.html">Products</a></li>
        <li><a href="contact.html">Contact Us</a></li>
    </ul>
</body>
```



```
li {
    display: inline;
}
```



Home Products Contact Us

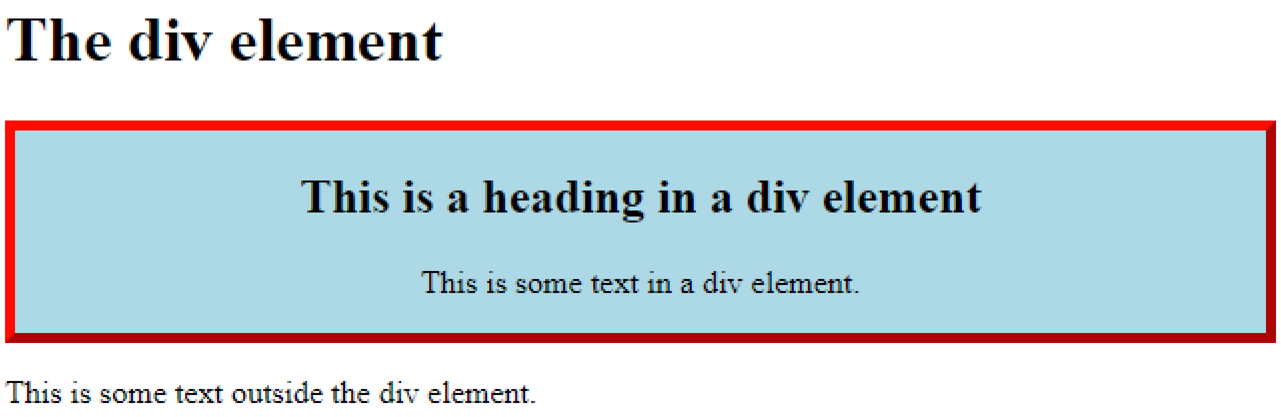
CSS : Divs

- The `<div>` tag defines a division or a section in an HTML document
- The `<div>` tag is used as a container for HTML elements, which is then styled with CSS
- The `<div>` tag is easily styled by using the `class` or `id` attribute
- Any sort of content can be put inside the `<div>` tag

CSS : Divs

```html
<body>
    <h1>The div element</h1>
    <div class="myDiv">
        <h2>This is a heading in a div element</h2>
        <p>This is some text in a div element.</p>
    </div>
    <p>This is some text outside the div element.</p>
</body>
```

```css
.myDiv {
  border: 5px outset red;
  background-color: lightblue;
  text-align: center;
}
```



The div element

This is a heading in a div element

This is some text in a div element.

This is some text outside the div element.

CSS : Overflow

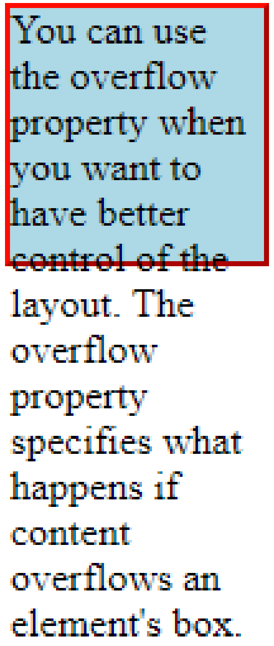
- The overflow property specifies whether to clip or to add scrollbars when the content of an element is too big to fit in the specified area
- The overflow property has the following values :

value	Meaning
visible	Default value, the overflow is not clipped. The content renders outside the element’s box
hidden	The overflow is clipped, and the rest of the content will be invisible
scroll	The overflow is clipped, and a scrollbar as always added to see the rest of the content
auto	Similar to scroll, but it adds the scrollbars only when necessary

CSS : Overflow (visible)

```
<body>
    <p>You can use the overflow property when
     you want to have better control of the
     layout. The overflow property specifies
      what happens if content overflows an
       element's box.</p>
</body>
```

```
p {
  border: 2px outset red;
  background-color: lightblue;
  width: 100px;
  height: 100px;
  overflow: visible;
}
```

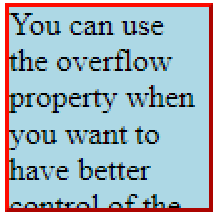


You can use the overflow property when you want to have better control of the layout. The overflow property specifies what happens if content overflows an element's box.

CSS : Overflow (hidden)

```
<body>
    <p>You can use the overflow property when
     you want to have better control of the
     layout. The overflow property specifies
      what happens if content overflows an
       element's box.</p>
</body>
```

```
p {
  border: 2px outset red;
  background-color: lightblue;
  width: 100px;
  height: 100px;
  overflow: hidden;
}
```

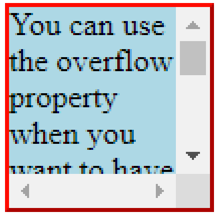


You can use
the overflow
property when
you want to
have better
control of the

CSS : Overflow (scroll)

```
<body>
    <p>You can use the overflow property when
     you want to have better control of the
     layout. The overflow property specifies
      what happens if content overflows an
       element's box.</p>
</body>
```

```
p {
  border: 2px outset red;
  background-color: lightblue;
  width: 100px;
  height: 100px;
  overflow: scroll;
}
```

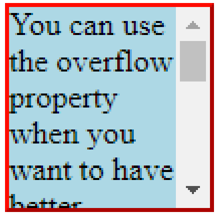


You can use the overflow property when you want to have

CSS : Overflow (auto)

```
<body>
    <p>You can use the overflow property when
     you want to have better control of the
     layout. The overflow property specifies
      what happens if content overflows an
       element's box.</p>
</body>
```

```
p {
  border: 2px outset red;
  background-color: lightblue;
  width: 100px;
  height: 100px;
  overflow: auto;
}
```



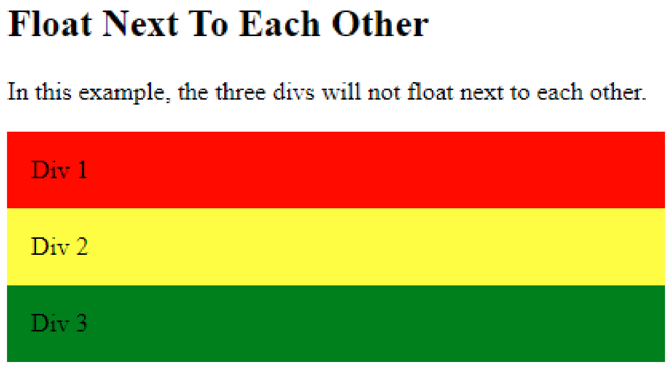
You can use the overflow property when you want to have better

CSS : Float

- Normally div elements will be displayed on top of each other. However, if we use `float: left` we can let elements float next to each other

```html
<body>
    <h2>Float Next To Each Other</h2>
    <p>In this example, the three divs
    will not float next to each other.</p>
    <div class="div1">Div 1</div>
    <div class="div2">Div 2</div>
    <div class="div3">Div 3</div>
</body>
```

```css
div {
  padding: 15px;
}
.div1 {
  background: red;
}
.div2 {
  background: yellow;
}
.div3 {
  background: green;
}
```



Float Next To Each Other

In this example, the three divs will not float next to each other.

Div 1

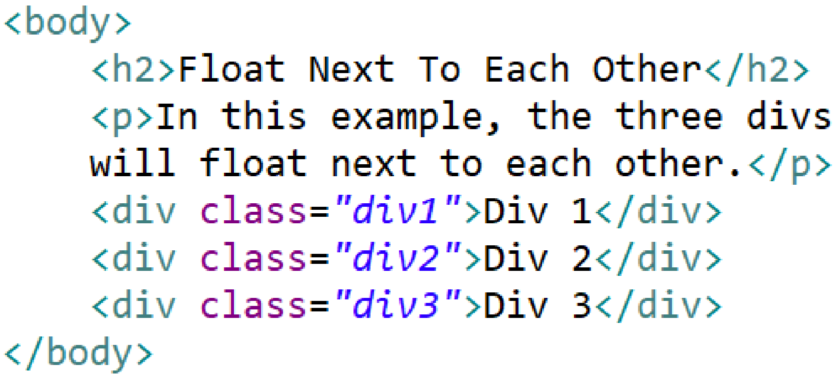
Div 2

Div 3

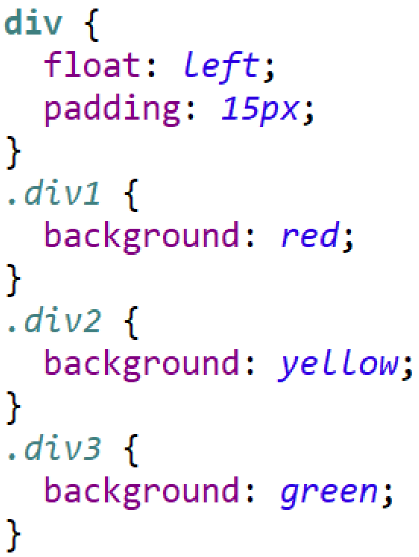
CSS : Float

- Normally div elements will be displayed on top of each other. However, if we use `float: left`

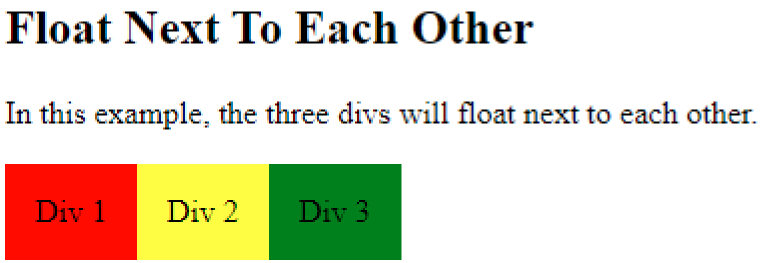
  we can let elements float next to each other



```
<body>
    <h2>Float Next To Each Other</h2>
    <p>In this example, the three divs
    will float next to each other.</p>
    <div class="div1">Div 1</div>
    <div class="div2">Div 2</div>
    <div class="div3">Div 3</div>
</body>
```



```
div {
  float: left;
  padding: 15px;
}
.div1 {
  background: red;
}
.div2 {
  background: yellow;
}
.div3 {
  background: green;
}
```



Float Next To Each Other

In this example, the three divs will float next to each other.

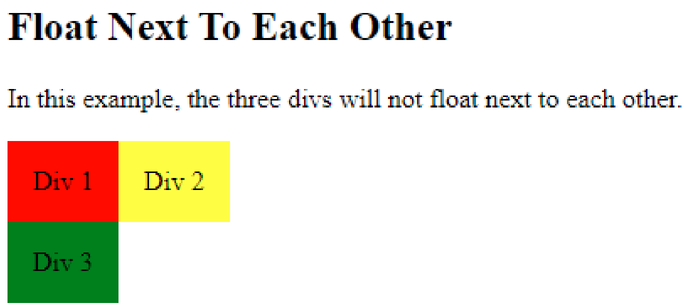
CSS : Clear

- When we use the `float` property, and we want the next element below (not on right or left),

  we will have to use the `clear` property

```
<body>
    <h2>Float Next To Each Other</h2>
    <p>In this example, the three divs
    will not float next to each other.</p>
    <div class="div1">Div 1</div>
    <div class="div2">Div 2</div>
    <div class="div3">Div 3</div>
</body>
```

```
div {
    float: left;
    padding: 15px;
}
.div1 {
    background: red;
}
.div2 {
    background: yellow;
}
.div3 {
    clear:left;
    background: green;
}
```

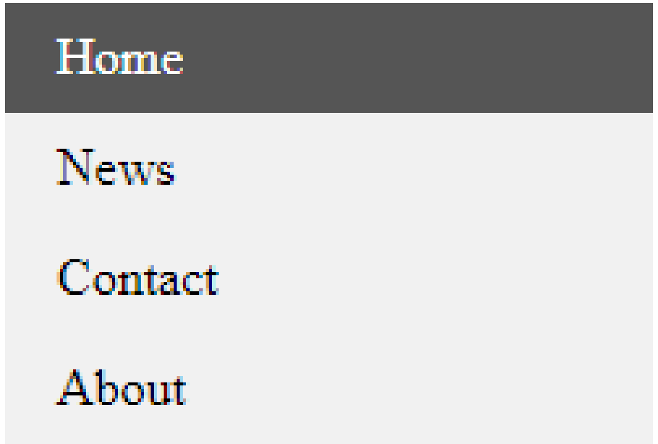


Float Next To Each Other

In this example, the three divs will not float next to each other.

CSS Div: Revision

- Create the following navigation bar:



Home

News

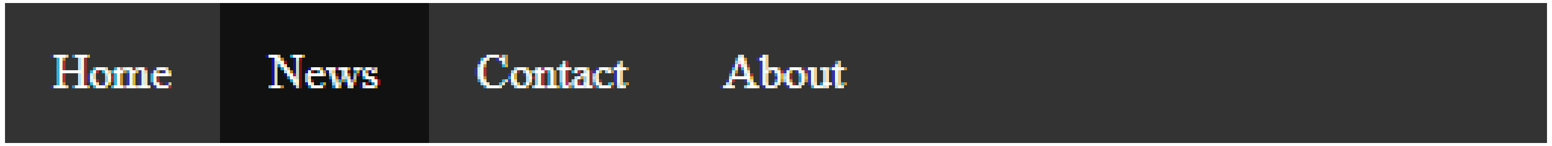
Contact

About

- Then, try to add content to the right side of the navigation bar

CSS Div: Revision

- Create the following navigation bar:



- Then, try to add content bellow the navigation bar

Quatrième partie

Projet personnel