

# Web development : HTML 5 / CSS 3 / JavaScript

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# Objectives

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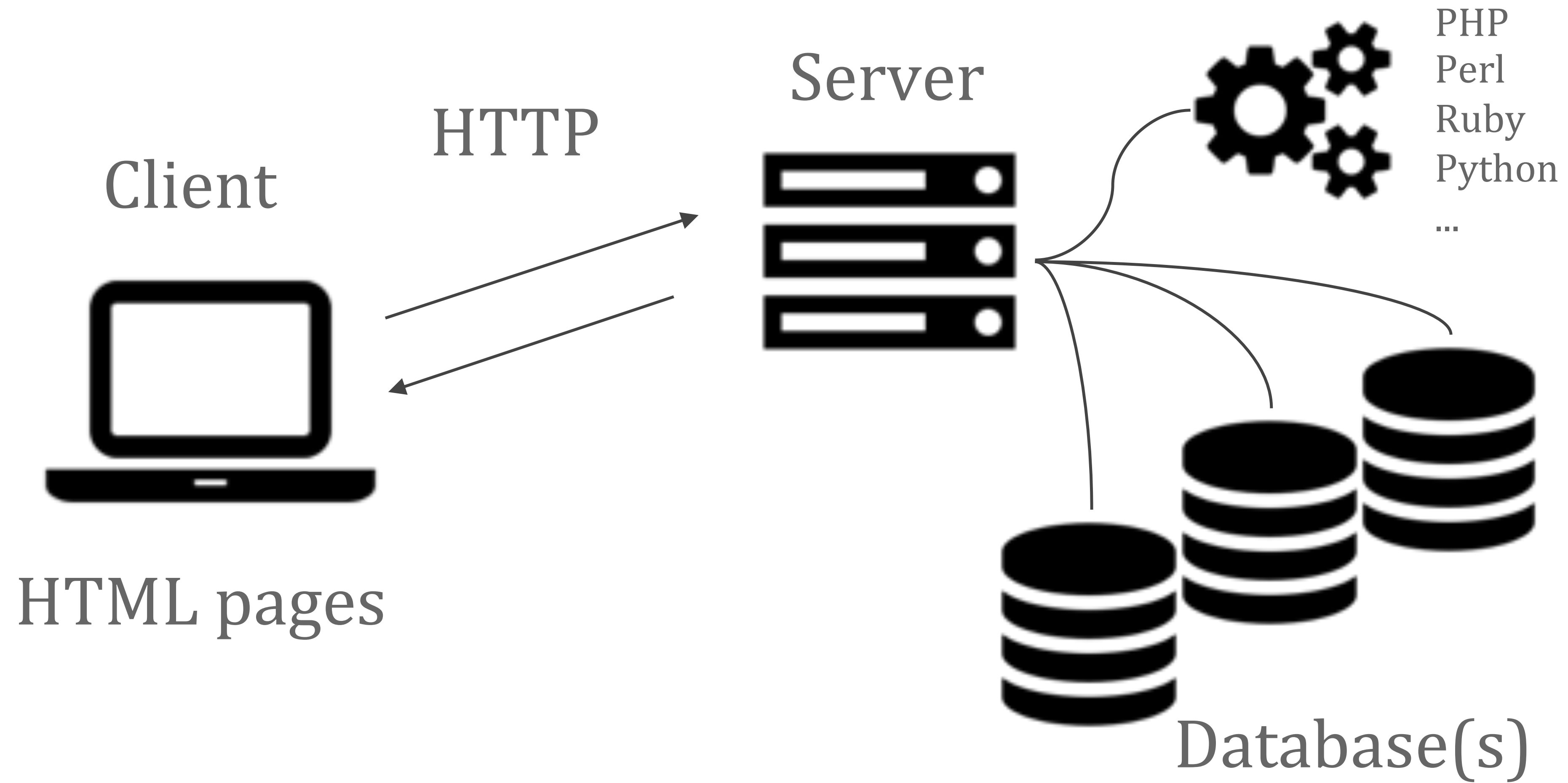
- To know how to **write and modify** web pages in a normalised language
- To know how to modify the **presentation attributes** of a web page
- To be able to create and use the **style sheets**

# Plan

- Introduction
- HTML 5
- CSS 3
- JavaScript

# Introduction

## Definitions



# Introduction

---

## Definitions

A classical HTML web page contains:

- HTML5 elements
- a CSS3 display style
- au JavaScript program
  - JS5
  - ECMAScript 6 (ES6)
- **HTML**: HyperText Markup Language
- **Hypertext**: document or ensemble of documents containing units of information linked together by hyperlinks
- **Hyperlink**: system used to go from one document to an other

The language HTML is today the only one for web pages descriptions

HTML Page



# 01.

## HTML 5

- Histoire
- Validation
- Structure d'un document HTML5
  - Tags
  - En-tête et corps de page
- Syntaxe
  - Structure de la page web
  - Styles de texte
  - Listes
  - Formulaires
  - Médias
- Exercices

# HTML

---

## History

At the beginning: the **text**!

Need to publish, share and find documents.

```
Title of my document
```

```
A paragraph in my document.
```

```
An other paragraph in my document, mentioning a web page.
```

# HTML

---

## History

At the beginning: the **text**!

Need to publish, share and find documents.

Late 80's: **hypertext** links

→ allow to point to an other web page

```
Title of my document
```

```
A paragraph in my document.
```

```
An other paragraph in my document, mentioning a  
<A HREF="http://www.cern.fr"> web page</A>.
```

(Code obviously non valid for the actual HTML norm)



# HTML

---

## History

1991: proposition of des **tags**

- enclosing HTML elements with opening tag `<` and a closing one `/>`
- in order to structure the informations and transform the source code into something correct displayed at the screen

```
Title of my document
```

```
A paragraph in my document.
```

```
An other paragraph in my document, mentioning a  
<A HREF="http://www.cern.fr"> web page</A>.
```

(Code obviously non valid for the actual HTML norm)

# HTML

## History

1995: Specification of HTML 2.0 by **IETF**

→ Internet Engineering Task Force who elaborates the internet standards

1996: **W3C** (World Wide Web Consortium)

→ Consortium (429 membres organisations in 2019) who elaborate the web standards

```
Title of my document
```

```
A paragraph in my document.
```

```
An other paragraph in my document, mentioning a  
<A HREF="http://www.cern.fr"> web page</A>.
```

(Code obviously non valid for the actual HTML norm)

# HTML

---

## History

1997-1999: HTML 4.0 and introduction of **style sheets**

1998: Publication by W3C of a **specification first draft**

→ Beginning of the web pages creations, conform to HTML5 specifications

```
Title of my document
```

```
A paragraph in my document.
```

```
An other paragraph in my document, mentioning a  
<A HREF="http://www.cern.fr"> web page</A>.
```

(Code obviously non valid for the actual HTML norm)

# HTML

---

## History

2011: Last call to contribute to the specification

28 octobre 2014: publication of **HTML5 standard** as W3C recommandation

```
Title of my document
```

```
A paragraph in my document.
```

```
An other paragraph in my document, mentioning a  
<A HREF="http://www.cern.fr"> web page</A>.
```

(Code obviously non valid for the actual HTML norm)

# HTML

---

## Validation of HTML code

In HTML, unlike other programming languages, a non-respect of the syntax won't prevent a display on the screen.

The web browser will display either something unspecified or won't display anything, but **never an error**.


→ **Importance of validation: you must validate your HTML code before publish it online**

# HTML

## Validation of HTML code

Importance of validation:  
you must validate your  
HTML code before publish  
it online

→ An essential tool: **W3C  
validator** and Mozilla  
fondation  
[http://  
validator.w3.org/](http://validator.w3.org/)

 **Markup Validation Service**  
Check the markup (HTML, XHTML, ...) of Web documents

Validate by **URI**

Validate by **File Upload**

Validate by **Direct Input**

**Validate by direct input**

Enter the Markup to validate:

```
<html>
<head>
  <title>A minimal web page</title>
</head>
<body>
  <p>First HTML.</p>
</body>
</html>
```

▼ **More Options**

☒ **Validate Full Document**

Use Doctype: 

(detect automatically) ▾

☐ Only if Doctype is missing

☐ **Validate HTML fragment**

Use Doctype: ☒ HTML 4.01 ☐ XHTML 1.0

☒ List Messages Sequentially ☐ Group Error Messages by Type

☐ Show Source ☐ Clean up Markup with HTML-Tidy

☐ Show Outline ☐ Validate error pages ☐ Verbose Output

Check

# HTML

## Structure of a HTML5 document - Tags

- HTML uses the notion of **tags**

There are 2 types of tags:

- Opened and closed tags, which enclose the content:

```
<em> Some italic </em>
```

- Tags that open and close at the same time:

```

```

```
<h1>An example of title</h1>
  <div>
    <p> Some texte <b>in bold</b>, then in <em>italic</em>,
then in <b><em>bold and italic</em></b>.</p>
    
  </div>
```

# HTML

---

## Structure of a HTML5 document - Tags

Some tags can have **attributes**.

Attributes have two parts:

- An attribute **name**
- An attribute **value**

```
<meta charset="utf-8" />
```

```

```

```
<p style="text-align:right">Some right aligned text</p>
```



# HTML

## Structure of a HTML5 document - Tags

- Structures in a hierarchical way
  - Each tags inherits of the properties of a higher hierarchical level (unless they re-define them)
- Importance of the closing order, there is no overlapping possible

```
<p>This text is <b> only in bold</b>.</p>
```

```
<p>This text is <b> only in bold <i> and this part is  
bold and italic</i></b>.</p>
```

```
<!-- Invalid: -->
```

```
<p>This text is <b> only in bold <i> and this part is  
bold </b>and italic</i>.</p>
```

# HTML

## Structure of a HTML5 document - Headers and body

There are 2 parts on a HTML page:

- **Header**: definition of the title, encoding, keywords ...
  - Information for the machines (browsers, robots ...)
- **Body**: content of the Web page
  - Information for the human

```
<!DOCTYPE html>
<html>
  <head>
    <!-- Header of the page -->
  </head>
  <body>
    <!-- Body of the page -->
  </body>
</html>
```

# HTML

---

## Structure of a HTML5 document - A minimal example

```
<!DOCTYPE html>
<html>

  <head>
    <meta charset="utf-8" />
    <title>A minimal web page</title>
  </head>

  <body>
    <p>My first HTML page.</p>
  </body>

</html>
```

# HTML

## Structure of a HTML5 document - Document type

- A document conform to HTML syntax ALWAYS starts with:

```
<!DOCTYPE html>
```

- Tag **title**
  - In the header, between the tags **<head>** and **</head>**
  - Only mandatory tag in the header

```
...  
  <head>  
    <title>Title of the webpage</title>  
  </head>  
...
```

# HTML

---

## Structure of a HTML5 document - Document type

- Tag **title**
  - In the header, between **<head>** and **</head>**
  - Mandatory
  - 100 characters max
  - Better for SEO (Search Engine Optimization)



My first HTML page.

# HTML

## Structure of a HTML5 document - Document type

### - Tag **meta**

- In the header, between **<head>** and **</head>**
- Non specified order
- For metadata of a web page
- Gives informations to the browsers about the webpage:
  - character encoding
  - page author, keywords, informations ...
- Never displayed directly on the page
- **Character encoding:**
  - Unicode (recommended): utf-8
  - Latin:
    - ISO-8859-1 (no accents)
    - ISO-8859-15

```
<meta charset="utf-8" />
```

```
<meta charset="ISO-8859-1" />
```

```
<meta charset="ISO-8859-15" />
```

# HTML

## Structure of a HTML5 document - Document type

### - Tag **meta**

- In the header, between **<head>** and **</head>**
- Non specified order
- For metadata of a web page
- Gives informations to the browsers about the webpage:
  - character encoding
  - page author, keywords, informations ...
- Never displayed directly on the page
- **Author:**
  - Identification of the author page
  - If many authors, separation of the names by a comma in the attribute **content**

```
<meta name="author" content="John Doe" />
```

```
<meta name="author" content="John Doe, Jane Doe" />
```

# HTML

## Structure of a HTML5 document - Document type

### - Tag **meta**

- In the header, between **<head>** and **</head>**
- Non specified order
- For metadata of a web page
- Gives informations to the browsers about the webpage:
  - character encoding
  - page author, keywords, informations ...
- Never displayed directly on the page
- **Keywords:**
  - Used to be important for the webpages
  - Keeps the significant keywords of the page, but people uses more and more **description**

```
<meta name="keywords" content="Class, HTML, web"/>
```



# HTML

## Structure of a HTML5 document - Document type

### - Tag **meta**

- In the header, between **<head>** and **</head>**
- Non specified order
- For metadata of a web page
- Gives informations to the browsers about the webpage:
  - character encoding
  - page author, keywords, informations ...
- Never displayed directly on the page
- **Description:**
  - Adds a description for a page
  - Informs web browsers and the readers about the content of the page

```
<meta name="description" content="Introduction to web  
development"/>
```

# HTML

---

## Structure of a HTML5 document - Document type

### - Tag **meta**

- In the header, between **<head>** and **</head>**
- Non specified order
- For metadata of a web page
- Gives informations to the browsers about the webpage:
  - character encoding
  - page author, keywords, informations ...
- Never displayed directly on the page
- Tag non mandatory, but very recommander by W3C (non official convention).
- List of all attributes:  
`https://www.iana.org/assignments/character-sets/character-sets.xhtml`
- More you fill the good tags and attributes and more chances you have that your web page will be well referenced by browsers

# HTML

## Structure of a HTML5 document - Headers examples

```
<!DOCTYPE html>
<html lang="fr">

  <head>
    <meta charset="utf-8" />
    <meta name="description" content="A web page" />
    <meta name="keywords" content="class, HTML, Web" />
    <meta name="author" content="John Doe" />
    <title>Title of my web lesson</title>
  </head>

  <body>
    ...
  </body>

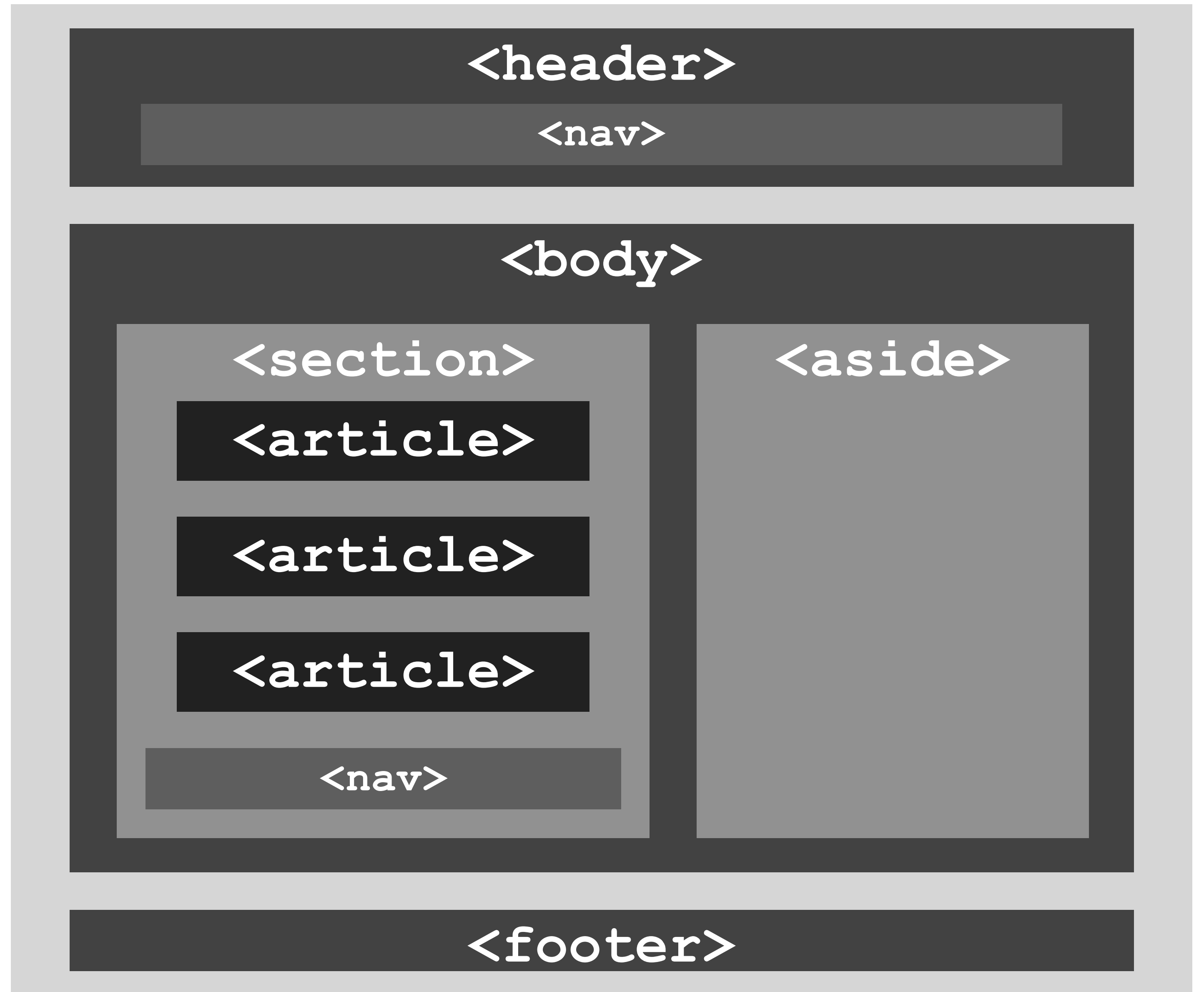
</html>
```

### Good habits

- encoding
- author
- description
- keywords
- title

# HTML

## Structure of a HTML5 document



# HTML

---

## Syntax - Sections

- Tag `div`
- Used to enclose structural elements (sections)
- Good practice: in a web page, use **imbricated** `<div>`

```
<div>
  <div>
    <!-- A first part -->
  </div>
  <div>
    <!-- A second part -->
  </div>
</div>
```

# HTML

## Syntax - Paragraphs

- Tag **p** for a new paragraph
- Tag **br** for a line break
- Good practice: better to use a second paragraph with **<p>** rather than to use a line break with **<br>**

```
<div>  
  <p> First line of paragraph 1 </p>  
  <p> First line of paragraph 2 <br>  
  Second line of paragraph 2</p>  
</div>
```

# HTML

---

## Syntax - Titles

- Several levels for titles (useful for sectioning and for CSS later)
- Title level one: **h1**
- Title level two: **h2**
- ...
- Title level 6 (max): **h6**
- Good practice: use only one title **h1** in the current level of the page

# HTML

## Syntax - Titles

```
<div>
  <h1>General title</h1>

  <h2>First big section</h2>
  <p>Introduction text</p>
  <h3>First title of first subsection</h3>
    <p>Some text in the first subsection</p>
  <h3>Second subsection title</h3>
  <p>Some text in second subsection </p>
  <h2>Second big section</h2>
</div>
```

# General title

## First big section

Introduction text

### First title of first subsection

Some text in the first subsection

### Second subsection title

Some text in second subsection

## Second big section

Introduction text



# HTML

## Syntax - External hypertext links

- Syntax: `<a href="link_page.html">Text to click</a>`

- Displays: [Texte à cliquer](#)

Two types of links:

- Relatives (local path).

Here it points to the page `index.html` in the current directory

```
<a href="index.html">Text to click</a>
```

- Absolutes

```
<a href="http://dept-info.labri.fr/~beurton/">Page LaBRI M. Beurton-Aimar</a>
```

# HTML

## Syntax - Internal hypertext links

- It's possible to create an anchor (a link) towards an other part of the same document (very convenient in the long web pages)
- The attribute **id** allows to define the destination (the place in the document) by giving it an **identification**
- The association of the link with the **#** following by the identification name will allow to point towards the anchor element

Example of anchor:

```
<div id="section2">  
  ...  
</div>
```

Example of links to this anchor:

```
<p>See <a href="#section2">second section</a> for  
details.</p>
```

# HTML

## Syntax - Internal hypertext links

Example: back to the top of the page

- Creation of the anchor, at the beginning of the **body** or the first **div** :

```
<a id="topPage"></a>
```

- Creation of the link to this anchor:

```
<a href="topPage">Back to the top of the page</a>
```

- With most of the browsers, no anchor is necessary to go back to the top of the page, just **#** alone is enough

```
<a href="#">Back to the top of the page</a>
```

# HTML

## Syntax - Example

### General title

### First big section

Introduction text

#### First title of first subsection

Some text in the first subsection with [a link](#)

#### Second subsection title

Some text in second subsection

### Second big section

Introduction text

```
1  <!DOCTYPE html>
2  <html lang="fr">
3
4      <head>
5          <meta charset="utf-8" />
6          <meta name="description" content="A web page" />
7          <meta name="keywords" content="Lesson, HTML, Web" />
8          <meta name="author" content="John Doe" />
9          <title>Web development</title>
10     </head>
11
12     <body>
13         <div>
14             <h1>General title</h1>
15             <h2>First big section</h2>
16                 <p>Introduction text</p>
17                 <h3>First title of first subsection</h3>
18                     <p>Some text in the first subsection
19                         with <a href="linkToOtherPage.html">a
20                         link</a></p>
21                 <h3>Second subsection title</h3>
22                     <p>Some text in second subsection </p>
23             <h2>Second big section</h2>
24                 <p>Introduction text</p>
25         </div>
26     </body>
27
28 </html>
```

# HTML

## Syntax - Colors

- Colors used with the tag **span** inside a paragraph:

```
<span style="color:blue">text in blue</span>
```

- The colours can be obtained with:

```
<p style="color:blue">text in blue</p>
```

- Values of colours:
  - **Predefined:**
    - classical colours
    - full list here\*
  - **Hexadecimals:**
    - format #RRGGBB (Red Green Blue)
    - example **#FFFF00** = **maroon**

- The text styles will be handle with CSS later

\*<http://www.standardista.com/css3/cssnamed-hsl-and-rgb-colors/>



# HTML

## Syntax - Lists

- Syntax: declaration of the list with `<ul>` then items with `<li>`

```
<p>In this class, I learn:</p>
<ul>
  <li>HTML</li>
  <li>CSS</li>
</ul>
```

In this class I learn:

- Le HTML
- Le CSS

- Default displaying (bullet list style might change depending the browser):

### Remarks:

- Bullet lists can be imbricated (but respect the indentation to keep some structure)
- The display style can be considerably changed with CSS stylesheets
- `<ul>` are often used for the menus
- Lists with numbers with `<ol>`

# HTML

---

## Syntax - Tables

- Tables in HTML are for "tabular data" only (data that can be defined by a column and row name).
- Better to use CSS rather than tables for layout because:
  - layout tables are made with a long and complicated code, so more chances to have errors
  - layout tables reduce the accessibility to visually impaired / blind persons because the web pages readers interpret HTML tags and read the content to the person
  - these tables do not adapt automatically at the size of the screen

# HTML

## Syntax - Tables

```
<table>
  <thead>
    <tr>
      <th>Header content 1</th>
      <th>Header content 2</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Body content 1</td>
      <td>Body content 2</td>
    </tr>
  </tbody>
  <tfoot>
    <tr>
      <td>Footer content 1</td>
      <td>Footer content 2</td>
    </tr>
  </tfoot>
</table>
```

Header content 1	Header content 2
Body content 1	Body content 2
Footer content 1	Footer content 2



# HTML

## Syntax - Forms

- Objective: to send informations written on a webpage to an other one
- Syntax: tag **<form>** with **<input>**, **<textarea>** and **<button>**
- Element **<form>** :
  - defines a form
  - attributes in option but strongly recommended to use **action** and **method** every time
  - **action** defines WHERE the collected data will be sent
  - **method** defines the HTTP method to send the data ("get" oo "post")

```
<form action="dataManagementScript.php" method="post"></form>
```

# HTML

## Syntax - Forms

- Objective: to send informations written on a webpage to an other one
  - Syntax: tag **<form>** with **<input>**, **<textarea>** and **<button>**
  - Elements **<input>**, **<textarea>**
    - the attribute **for** of **<input>** will link a label to a form element by referencing the correspondant element
    - the attribute **type** of **<input>** is the most important, it defines the behaviour of the element
- <input>**
- **<input>** VS **<textarea>** **</textarea>**:

```
<input type="text" value="Element with text">
```

```
<textarea>Element with text</textarea>
```

# HTML

## Syntax - Forms

- Objective: to send informations written on a webpage to an other one
- Syntax: tag `<form>` with `<input>`, `<textarea>` and `<button>`
- Element `<button>`
  - adding of a button so the user can send data written in the form
  - the attribute `type` can have the values `submit` (sending data), `reset` (reset to defaults values) or `button` (does nothing but can be useful for JavaScript debugging)

```
<div class="button">  
  <button type="submit">Send the data</button>  
</div>
```

# HTML

---

## Syntax - Forms

- Objective: to send informations written on a webpage to an other one
- Syntax: tag **<form>** with **<input>**, **<textarea>** and **<button>**

## Remarks:

- Before programming and writing the code, it's better to think about the form you want to build and maybe write a quick sketch of how you want it organised and the type of informations you want from the user
- Stay simple and keep the objective in mind: ask only what is necessary
- Better to have a **label** every time
- The **for** of **label** has to refer to the **id** of the corresponding field
- Those ids don't contain spaces or special characters (@#!\$\*% ...) and will never be displayed to the user
- The attribute **placeholder** contains the text displayed by default and is allowed to have all the types of characters
- The tag **<fieldset>** allows a nice rendering by default

# HTML

---

## Syntax - Forms

Many fields are possible:

- checkboxes, radio, textarea, select, toolbar, file ...
- Variants of text: `tel`, `email`, `url`, `date`, `color` ...

Be careful, some new fields like `tel`, `date` or `color` are not always supported by the browsers and won't be displayed well

# HTML

## Syntax - Forms

```
<body>
  <div>
    <h1>Forms</h1>

    <h2>A first one</h2>

    <h3>On the same line</h3>
    <form action="">
      <p><label for="GET-name">Name:</label>
        <input id="GET-name" type="text">
        <input type="submit" value="Save"></p>
    </form>
    <h3>On two different lines</h3>
    <form action="">
      <p><label for="GET-name">Name:</label>
        <input id="GET-name" type="text"></p>
      <p><label for="GET-name">Name:</label>
        <input type="submit" value="Save"></p>
    </form>
```

## Forms

### A first one

#### On the same line

Name:

#### On two different lines

Name:

Name:



# HTML

## Syntax - Forms

```
<h2>A second form</h2>

<form action="" method="post">
  <fieldset>
    <legend>Title</legend>
    <input type="radio" id="radio"> <label for="radio">Click me</label>
  </fieldset>
</form>
```

### A second form

Title

☐ Click me

# HTML

## A third form

### Syntax - Forms

Your personnal informations

Name

Birthdate

Password

```
<h2>A third form</h2>

<form action="traitement.php">
  <fieldset>
    <legend>Your personnal informations</legend>
    <p><label for="name">Name</label>
      <input type="text" name="name" id="name" placeholder="Your name"></p>
    <p><label for="bd">Birthdate</label>
      <input type="date" name="bd" id="bd"></p>
    <p><label for="pswd">Password</label>
      <input type="password" name="pswd" id="pswd" placeholder="Your password"></p>
    <p><button type="submit" role="button" aria-disabled="false">Send</button></p>
  </fieldset>
</form>
```



# HTML

## Syntax - Multimedia

- For an image in the webpage:

```

```

- Most of the extensions are supported by HTML5.
- The replacement text is displayed by the browser if the image is not found (link missing, wrong path, wrong name) or in some specific cases (browser readers for visually impaired persons)
- For a video:

```
<video controls src="myVideo.mp4">Replacement text</video>
```

# HTML

## Main tags (1/2)

### Metadata

```
<base> <head> <link> <meta> <style> <title>
```

### Content selection

```
<address> <article> <aside> <footer> <header> <h1> <h2> <h3>  
<h4> <h5> <h6> <hgroup> <nav> <section>
```

### Content text

```
<dd> <div> <dl> <dt> <figcaption> <figure> <hr> <li> <main>  
<ol> <p> <pre> <ul>
```

### Text semantic

```
<a> <abbr> <b> <bdi> <bdo> <br> <cite> <code> <data> <dfn>  
<em> <i> <kdb> <mark> <q> <rp> <rt> <rtc> <ruby> <s> <samp>  
<small> <span> <strong> <sub> <sup> <time> <u> <var> <wbr>
```

# HTML

---

## Main tags (2/2)

### Multimedia

```
<area> <audio> <img> <map> <track> <video>
```

### Table

```
<caption> <col> <colgroup> <table> <tbody> <td> <tfoot>  
<thead> <tr>
```

### Forms

```
<button> <datalist> <form> <input> <label> <legend> <meter>  
<optgroup> <option> <progress> <select> <textarea>
```

# HTML Exercises

## Exo 1: Display "Hello World" at the screen

Hello World

## Exercises

### **Exo 2: Display "Hello World" in blue**

"Hello World"

# HTML

---

## Exercises

**Exo 3: Display all numbers from 1 to 7 in bold, with each number in a different color of the rainbow**

**1 2 3 4 5 6 7**

## Exercises

### **Exo 4: Display "Hello World" with Arial font**

"Hello World"

## Exercises

### **Exo 5: Change font corresponding to the text**

("Courier New") Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. ("Times New Roman") Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. ("Georgia") Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. ("Helvetica") Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum."



## Exercises

### Exo 6: Change style corresponding to the text

"Lorem ipsum dolor sit amet, consectetur (underline) adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, (**bold**) **quis nostrud exercitation** ullamco laboris nisi ut aliquip ex ea commodo consequat. (underline) Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint (*italic*) *occaecat cupidatat non proident*, sunt in culpa qui officia deserunt mollit anim id est laborum."

## Exercises

### **Exo 7: Some maths**

$$7^2 = 49$$

$$X_{n+1} = 42$$

## Exercises

### **Exo 8: Hierarchy**

**In this lesson we learn:**

- I. HTML
- II. CSS
- III. JavaScript

### **Tools**

- Slides
- Text editor
- Web browser
- Note book

## Exercises

### **Exo 9: Some coding in my page**

here is an example of a for loop in Python:

```
myList = ["a", "b", "c", "d"]  
for i in myList:  
    print(i)
```

## Exercises

### **Exo 10: Link to my favorite web browsers**

Search with [Google](#)

Search with [Bing](#)

Search with [Ecosia](#)

## Exercises

### **Exo 11: Organazing my page**

[Click here to go to the top of the page](#)

[Click here to go to the botton of the page](#)



## Exercises

### Exo 12: What a beautiful image !



## Exercises

### Exo 13: What a beautiful framed image !

Size of the image: (WxH) 300x400 with 2 pixels border.





## Exercises

### **Exo 14: My image is hides a link**

Click on the image to open a new tab on Linux website:



## Exercises

### **Exo 15: My image has its own page**

Click on the image to open the new tab:



Exercises

Exo 16: Article submission form

Please follow the next steps to submit your article in our famous journal.

Mandatory fields are followed by \*.

Contact informations

Quality

Name: \*

E-mail: \*

Password: \*

Your article

Title: \*

Title of your article (50 characters max.)

Abstract: \*

Abstract of the article (500 characters max.)

Reviewers: \* *Please select at least one reviewer (Reviewer 1 selected by default).*

Reviewer 1  Reviewer 2  Reviewer 3

Payment

Card:

Visa

Card number: \*

Expiration date: \* MM/AA

Validate the submission

# Sources et références

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- Cours originaux d'Etienne André, Florent Grélard et Jean-Christophe Taveau
- <https://developer.mozilla.org/>
- [https://en.wikibooks.org/wiki/Cascading\\_Style\\_Sheets](https://en.wikibooks.org/wiki/Cascading_Style_Sheets)
- <http://www.w3.org/TR/CSS/>
- <https://openclassrooms.com/fr/courses/1603881-apprenez-a-creer-votre-site-web-avec-html5-et-css3>