

# HTML

# HTML?

- Stands for **HyperText Markup Language**
- Standard language to build a webpage
  - Describes structure
  - Imports needed files
  - Works alone



# HTML - Tags

- HTML Elements are represented with **tags**
- Tags are words between ‘<’ and ‘>’ , like <html>, <body>
- **Usually** tags need to be opened (<html>) and closed (</html>)
- Each tag represents a part or an element of the website
  - <html>, <head>, <body>
  - <header>, <nav>, <main>, <article>, <section>, <footer>
  - <img>, <a>, <iframe>, <div>, <p>

# HTML - Tags

```
<!DOCTYPE html>
<html>
  <head>
    <title>This is a webpage</title>
  </head>
  <body>
    <h1> Big heading! </h1>
    <hr>
    <p> This is paragraph </p>
    <span> This is text as well </span>
  </body>
</html>
```

# HTML - Tags

- All HTML files contain `<!DOCTYPE html>` ,`<html>`, `<head>` and `<body>` tags
- `<head>` contains what “cannot be seen”
  - title
  - metas (to give information about the website)
  - Code to load (css, js...)
- `<body>` holds “what we see” in a website

# HTML - Tags

- Core

- `<!DOCTYPE html>`
- `<html>`, `<head>`, `<body>`

- Structure

- `<div>`, `<table>`
- HTML5: `<header>`, `<main>`, `<nav>`, `<aside>`, `<section>`, `<footer>`,

- Headings

- `<h1>`, `<h2>`, `<h3>` ... `<h6>`

- Text

- `<p>`, `<span>`
- `<b>`, `<u>`, `<i>`, `<strong>`, `<em>`
- `<ins>` and `<del>`
- HTML5: `<cite>`, `<acronym>`, `<abbr>`,  
`<blockquote>`

- Media

- `<img/>`, `<audio>`, `<video>`

- Links

- `<a>`

# HTML - Tags

- Metadata tags - must be inside `<head></head>`:
  - `<meta>`: Configuration of viewport, charset, author, etc...
  - `<link>`: Imports the stylesheets to be used.
  - `<base>`: Defines the base url for all relative url inside the page.
  - `<title></title>`: Defines the text in the browser tab.
  - `<script></script>`: Defines the javascript to be used in the client, either defines within the tag or from a .js file.
  - `<style></style>`: Defines the css to be used in the client.

# HTML - Attributes

- Provide **additional information** and are specific to each tag
- Always on the **start tag** `<tag name="valor"></tag>`
- Usually come in **name/value** pairs: name = "value"
  - href = "about.html"
  - colspan = 2
- We use a **space** to separate multiple attributes
  - `<div id="first" class="maps" style="color: red"></div>`



# HTML - Attributes

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="mystyle.css">
    <title>My Web</title>
  </head>
  <body>
    
    <span style="color:blue"> Google logo </span>
  </body>
</html>
```

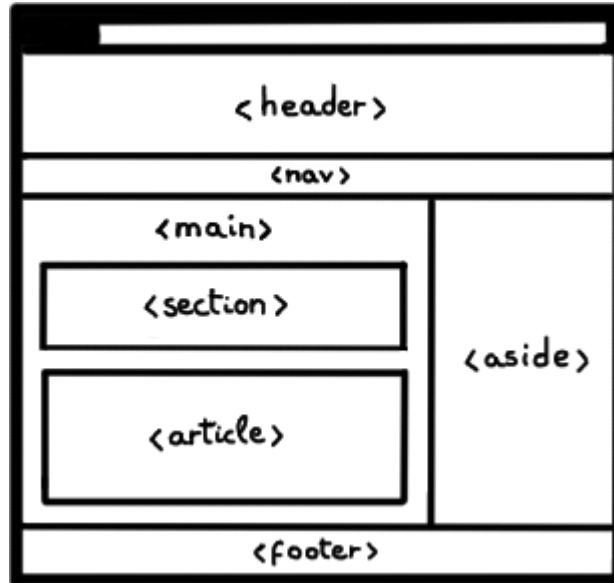
# HTML - Attributes

- Basic
  - `<html lang="es-ES">`
  - `<meta charset="UTF-8">`
- General
  - id, class (selectors)
  - style
- Specific
  - href, src
  - colspan, rowspan
  - type, name, value, alt, placeholder

# HTML - Containers

- To organize
- To move content / style the webpage
- `<div>` and `<table>` , traditionally
- HTML5 adds semantic
  - `<header>`
  - `<footer>`
  - `<section>`

# HTML - Containers



# HTML - Containers: Div

```
<div>
  <p> This is something we will be able to move </p>
  <br>
</div>
<div>
  <span> This div contains other divs inside </span>
  <div><br></div>
  <div><br></div>
</div>
```

# HTML - Containers: Table

```
<table>
  <thead>
    <tr>
      <th>Owner Name</th>
      <th>Dog name</th>
      <th>Dog age</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Caroline</td>
      <td>Lassie</td>
      <td>1</td>
    </tr>
  </tbody>
</table>
```

Owner Name	Dog name	Dog age
Caroline	Lassie	1

# HTML - Links

- Externals

- `<a href="https://www.google.com" target="_blank">Google</a>`
- `<a ... rel="noopener noreferrer">Google</a>`

- Internals

- `<a href="index.html">`
- `<a href="#about">`

# HTML - Forms

- Traditional way to send information to the server
- Mandatory `<form>` `</form>`
- Attribute “action” in `<form>`: where to send the info
- Common attributes in `<input>`
  - “name”: to identify the field
  - “type”: to select the input type (text, password, email, textarea, etc)
  - required: boolean to mark input as mandatory
- We can use `<input>` **without a form**



# HTML - Forms

Username:

Password:

```
<form action="/action_page.php">
  <label for="login-username">Username: </label>
  <input type="text" name="login-username" placeholder="Anakin" id="login-username"/>
  <br/>
  <label for="login-password">Password: </label>
  <input type="password" name="login-password" id="login-password" placeholder="*****">
  <br/>
  <button type="submit">
    Submit
  </button>
</form>
```

# HTML - Forms - Common inputs

These are the most common inputs to use:

- `<input type="text"/>`: Text field input
- `<input type="password"/>`: Password field input, will format as “\*\*\*\*\*”
- `<input type="email"/>`: Email field input, it will expect a format like  
“[a@domain.name](#)” / “[example@gmail.com](#)”
- `<input type="number" max="100" min="1"/>`: Number field input
- `<input type="date"/>`: Date field input
- `<textarea rows="1" cols="20"></textarea>`: Typical description/commentaries field

# HTML - Forms: Fieldset & Legend

Dog:

Email:

Number:

Size:

Url:

Description...

```
<form action="/action_page.php" >
  <fieldset>
    <legend>Dog:</legend>
    Email: <input type="email" name="email"
placeholder="example@email.com" ><br>
    Number: <input type="number" name="number" value="1"
max="5"><br>
    Size: <input type="range" name="range" value="4" step="2"><br>
    Url: <input type="url" name="url"
placeholder="http://www.google.com" ><br>
  </fieldset>
  <textarea name="text" id="text" cols="30" rows="10"
placeholder="Description..." ></textarea><br>
  <button type="submit" value="Submit">
    Submit
  </button>
</form>
```

# HTML - Forms: Select & Optgroup

```
<form action="/action_page.php">
  Best color:
  <select name="colors">
    <optgroup label="Cold">
      <option value="blue">Blue</option>
      <option value="green">Green</option>
    </optgroup>
    <optgroup label="Warm">
      <option value="red">Red</option>
      <option value="yellow" selected>Yellow</option>
    </optgroup>
  </select>
  <br><br>
  <button type="submit" value="Submit">
    Submit
  </button>
</form>
```

Best color: Yellow ▼

Submit

# HTML - Forms: Radio button & Check box

```
<form action="/action_page.php">
  <label for="jedi">Jedi: </label>
  <input type="radio" name="faction" id="jedi" checked><br>
  <label for="female">Sith: </label>
  <input type="radio" name="faction" id="female"><br>
  <label for="other">Other: </label>
  <input type="radio" name="faction" id="other"><br>

  <input type="checkbox" name="option"> Checkbox - 1 <br>
  <input type="checkbox" name="option"> Checkbox - 2 <br>
  <button type="submit" value="Submit">
    Submit
  </button>
</form>
```

Jedi: ☒

Sith: ☐

Other: ☐

☒ Checkbox - 1

☒ Checkbox - 2

# HTML - Canvas

- To draw graphics
- Attributes width and height **must** be set (not CSS!)
- JS required

```
<canvas id="canvas" width="300" height="300"></canvas>
```

# HTML - Media

- Video and audio
  - Attributes: controls, autoplay...
  - Be careful with media types
  - Text is displayed only if tag not supported

```
<video width="330" height="250" controls
autoplay>
  <source src="popcorn.mp4" type="video/mp4">
  <source src="popcorn.webm" type="video/webm">
  This browser does not support the video tag.
</video>
```

```
<audio controls>
  <source src="birds.wav" type="audio/wav">
  <source src="birds.mp3" type="audio/mpeg">
  Your browser does not support the audio
element.
</audio>
```

# HTML - Iframes

- To insert a webpage inside another
- Do not abuse it
  - Loading time
  - Security problems

```
<iframe width="560" height="315" src="https://www.youtube.com/embed/dZNK3EDp-t8?autoplay=1"
  frameborder="0" allow="autoplay; encrypted-media" allowfullscreen></iframe>
```



# HTML - APIs

- HTML Geolocation
- HTML Drag and Drop
- HTML Local Storage
- HTML Application Cache
- HTML Web Workers
- HTML SSE