Introducción a HTML y CSS

Data Science II
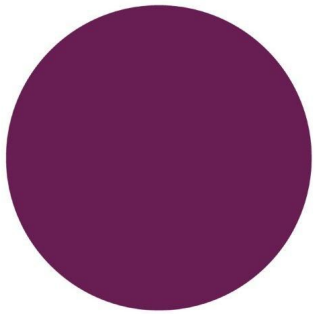
Contenidos del reto 6

- Fuentes de datos
  - Datos web
    - Introducción a HTML, CSS y XML
    - Scraping web
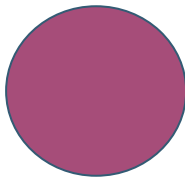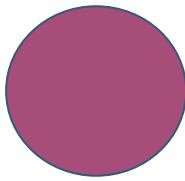   - APIs de terceros
    - Patrones de usuario (Temporal patterns)
  - Lenguaje natural
    - Sentiment Analysis
- Técnicas de tratamiento de datos
  - Introducción al scraping web
  - NLP
    - Text mining y parseo de secuencias textuales
    - Similitud de cadenas.
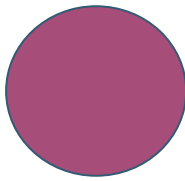
Introduction to HTML

- HTML is a markup language. "Markup" now means something slightly different: a language with specific syntax that instructs a Web browser how to display a page. Once again, HTML separates "content" (words, images, audio, video, and so on) from "presentation" (instructions for displaying each type of content).

- HTML uses a pre-defined set of elements to define content types. Elements contain one or more "tags" that contain or express content. Tags are enclosed by angle brackets, and the closing tag begins with a forward slash.
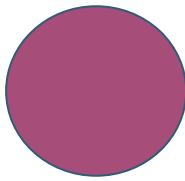
What it is HTML?

- The paragraph element consists of the start tag "<p>" and the closing tag "</p>".
- The following example shows a paragraph contained within the HTML paragraph element. Remember that your browser will not display more than one space character in a row:
- <p>This is my first paragraph</p>

What is HTML?
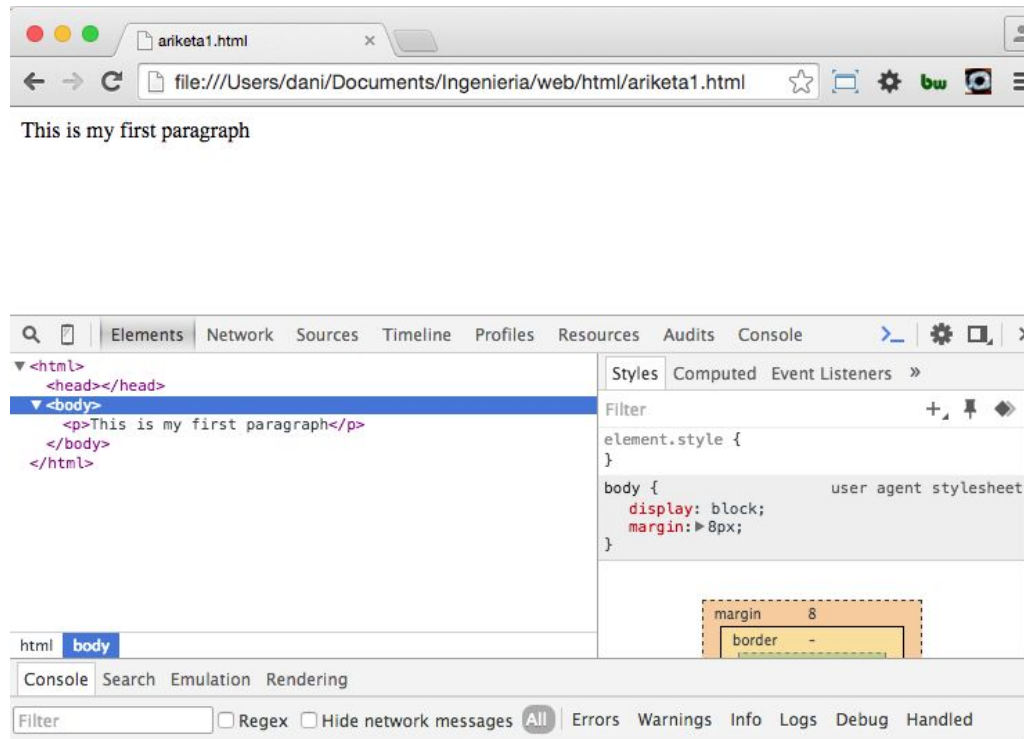
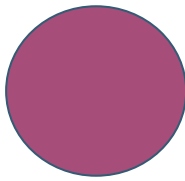The browser uses tags as an indicator of how to display the content in the tags.

What is HTML?

- Usually elements containing content can also contain other elements. For example, the emphasis element ("") can be embedded within a paragraph element, to add emphasis to a word or phrase:

    <p>This is my second paragraph</p>
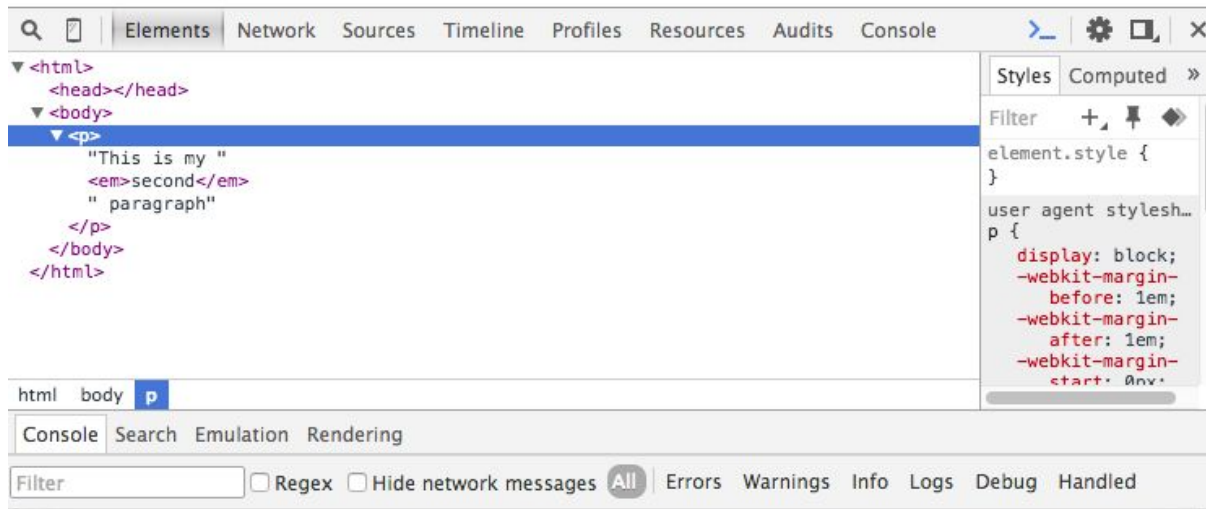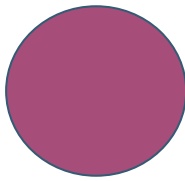
What is HTML?

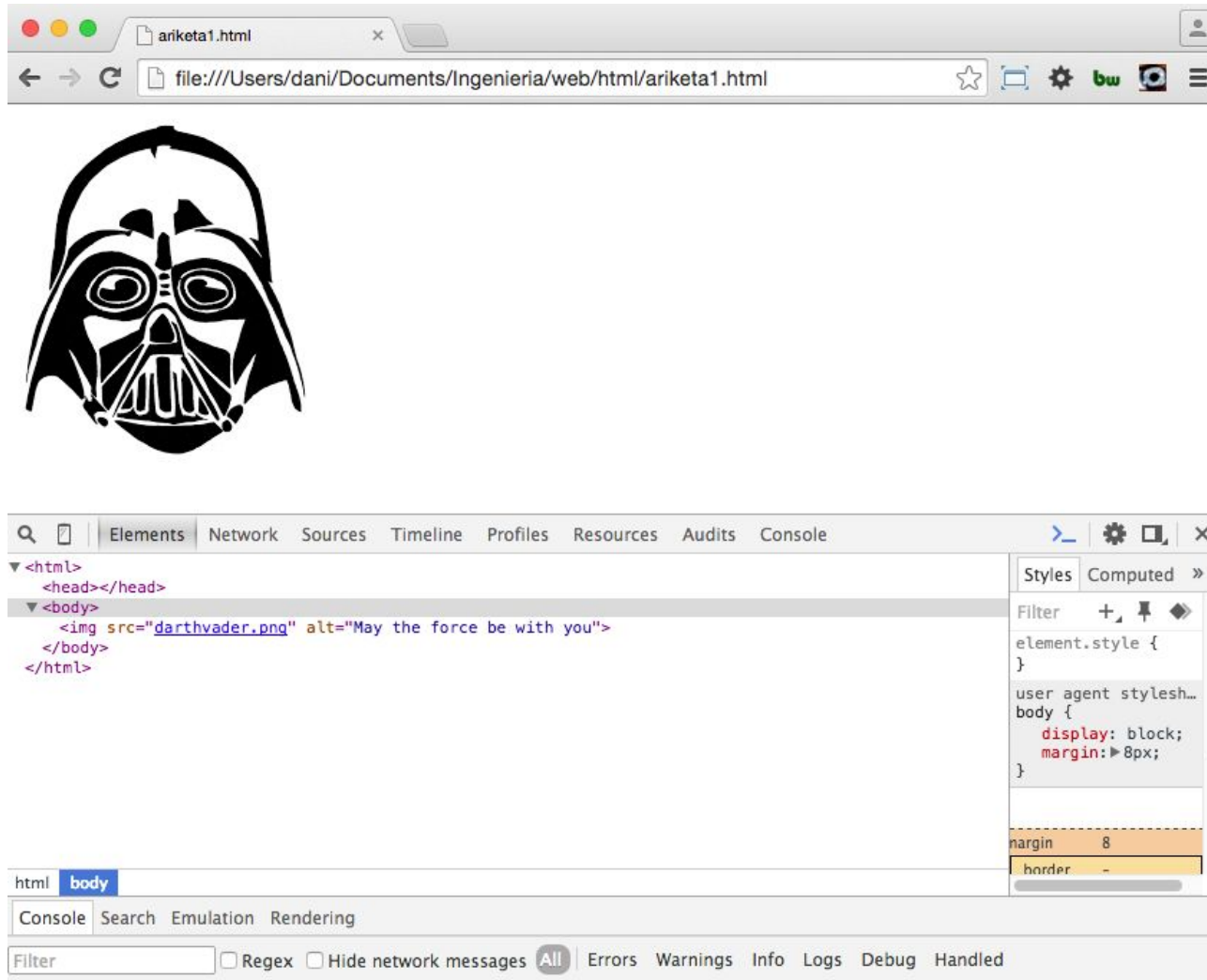- When displayed, this looks like this:

What is HTML?

- Some elements cannot contain other elements. For example, the image tag ("<img>") specifies the filename of the content (an image) as an attribute:

```
<img src="darthvader.png" alt="May the force be with you">
```

What is HTML?

Elements — the basic building blocks

- HTML consists of a set of elements, which define the semantic meaning of their content. Elements include two matching tags and everything in between.

- For example, the "<p>" element indicates a paragraph; the "<img>" element indicates an image.

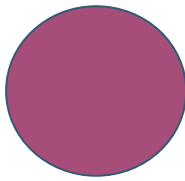# What is an element?

- An element is a part of a webpage. A typical element includes an opening tag, attributes, content and a closing tag:

Anatomy of an HTML element

Opening tag

Closing tag

`<p class="nice">Hello world!</p>`

An attribute and its value

Enclosed text content
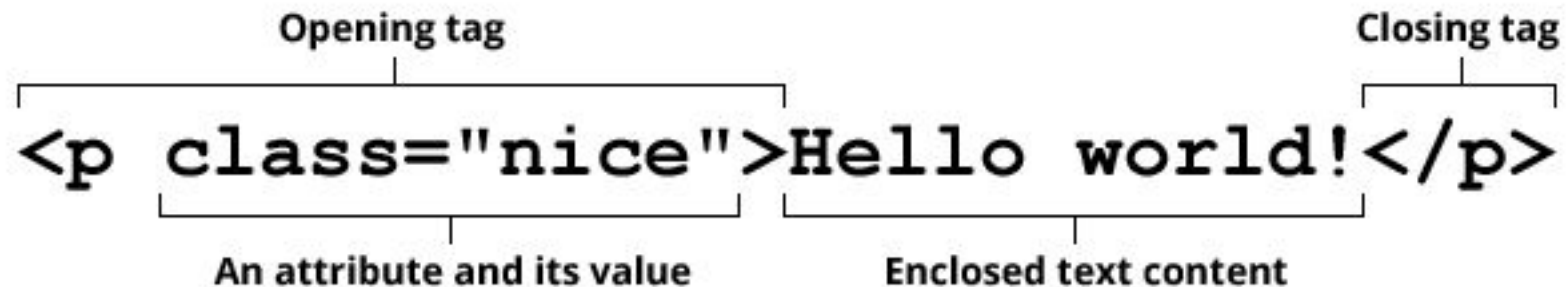
Elements

- Most elements may contain other elements, forming a hierarchic structure. A very simple but complete webpage looks like this:

```html
<html>
<head></head>
<body>
<p>May the force be with you</p>
</body>
</html>
```

Elements

- The <html> element surrounds the rest of the document, and the <body> element surrounds the page content.

- This structure is often thought of as a tree with branches (in this case, the <body> and <p> elements) growing from the trunk (<html>).

- This hierarchical structure is called the **DOM** (document object model).

Tags

- HTML documents are written in plain text
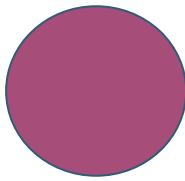
- HTML attaches special meaning to anything that starts with the less-than sign ("<") and ends with the greater-than sign (">"). Such markup is called a tag

- To write valid code, you must properly nest start and closing tags, that is, write close tags in the opposite order from the start tags.

What is a Tag?

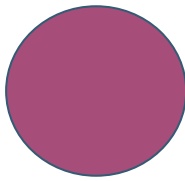- In HTML a tag is used for creating an element. The name of an HTML element is the name used in angle brackets such as <p> for paragraph.

- Note that the end tag's name is preceded by a slash character, "</p>", and that in empty elements the end tag is neither required nor allowed. If attributes are not mentioned, default values are used in each case.

Tags examples. *Nesting*

- **Valid** code:

```
<p>I sense great fear in you, <em>Skywalker</em></p>
```
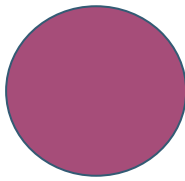
- **Invalid** code:

```
<p><em>No.</p> I am your Father.</em>
```

Attributes

- The start tag may contain additional information

- Such information is called an attribute. Attributes usually consist of 2 parts:

  – An attribute name

  – An attribute value

  ```
  <p class="jedi">I'm Luke Skywalker, I'm here to rescue you</p>
  ```

What is an attribute?

- An attribute extends a tag, changing tag behavior or providing metadata.

- An attribute always has the form name=value (giving the attribute's identifier and the attribute's associated value).

Attributes

- A few attributes can only have one value.
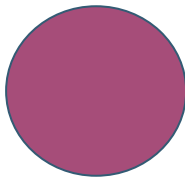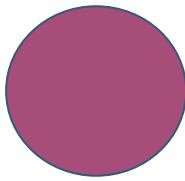
- They are Boolean attributes and may be shortened by only specifying the attribute name or leaving the attribute value empty.

- Thus, the following 3 examples have the same meaning:

```
<input required="required">

<input required="">

<input required>
```
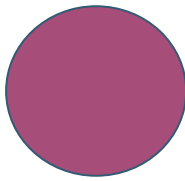
Attributes

- Attribute values that consist of a single word or number may be written as they are, but you must enclose values containing spaces in quotation marks (either single (') or double (") quotes).

```
<p class="jedi">I'm Luke Skywalker, I'm here to rescue you</p>
```

Named character references

- Named character references (often casually called entities) are used to print characters that have a special meaning in HTML.

- For example, HTML interprets the less-than and greater-than symbols as tag delimiters. When you want to display a greater-than symbol in the text, you can use a named character reference.

- More info: http://www.w3.org/html/wg/drafts/html/master/syntax.html#named-character-references
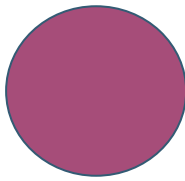
Named character references

- > → >
- < → <
- & → &
- " →"
- á →á
- é →é
- í → í
- ó → ó
- ú →ú
- ñ → ñ

Embedding comments

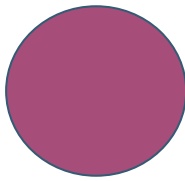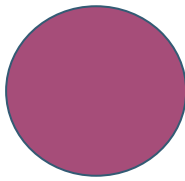- HTML has a mechanism for embedding comments that are not displayed when the page is rendered in a browser. This is useful for explaining a section of markup, leaving notes for other people who might work on the page, or for leaving reminders for yourself.

```
<!-- This is a comment text -->
```
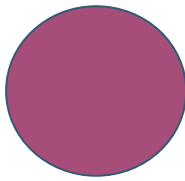
Doctype declaration

- Besides tags, text content, and entities, an HTML document must contain a doctype declaration as the first line. The doctype declaration is not an HTML tag, but rather tells the browser which version of HTML the page is written in.

- For example in HTML5 the declaration:

  ```
  <!DOCTYPE html>
  ```

Briefly

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>This is my first HTML document</title>
</head>
<body>
  <h1>May the force be with you</h1>
  <!-- This is a comment that the browser will not render -->
  <p>Luke, I am your<abbr title="Hyper Text Markup Language">father</abbr>.</p>
</body>
</html>
```

His tiny example HTML document. You can copy this code to a text editor, save it as *myfirstexample.html,* and load it in a browser.
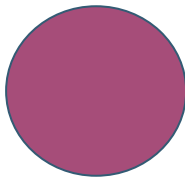
Introduction to CSS

- CSS stands for Cascading Style Sheets.
- Describes the presentation of a Web page (HTML).
- CSS is a rule-based language — you define rules specifying groups of styles that should be applied to particular elements or groups of elements on your web page.
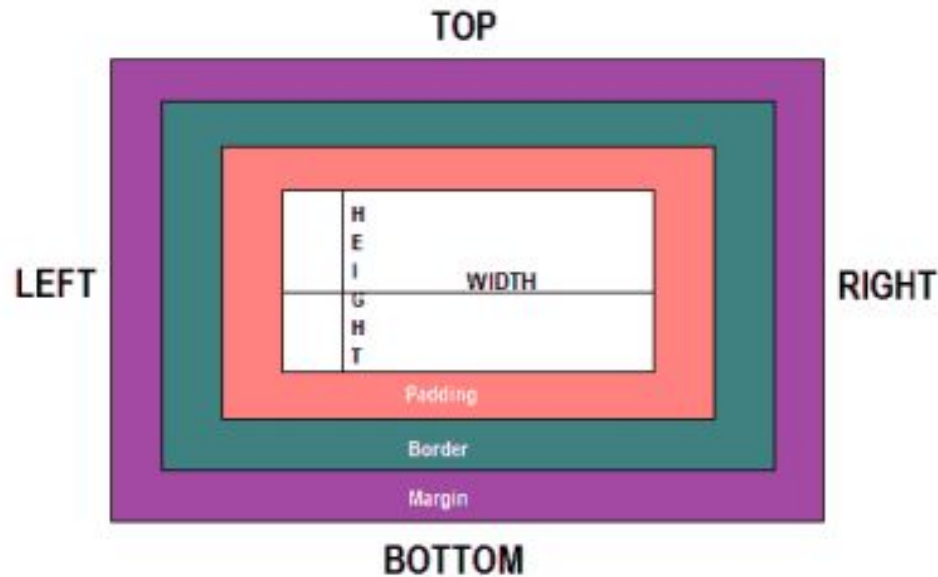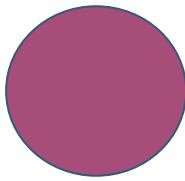
CSS Box Model

- **Content**: The content area, which can be sized using width and height.
- **Padding**: Sits around the content as white space.
- **Border**: Wraps the content and any padding.
- **Margin**: The outermost layer, the whitespace between this box and other elements.

CSS Selectors
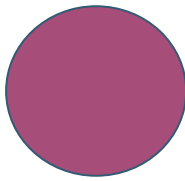
- **SELECTOR**: A selector is an HTML tag at which style will be applied.
- **PROPERTY**: The different properties that can be assigned to the elements, as well as the styles.
- **VALUE**: Value assigned to the different properties. They can be of different types, pixels, colors, measures.

Sintaxis

Selector   Declaración

body   {background-color: lightblue;}
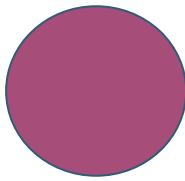
Propiedad   Valor
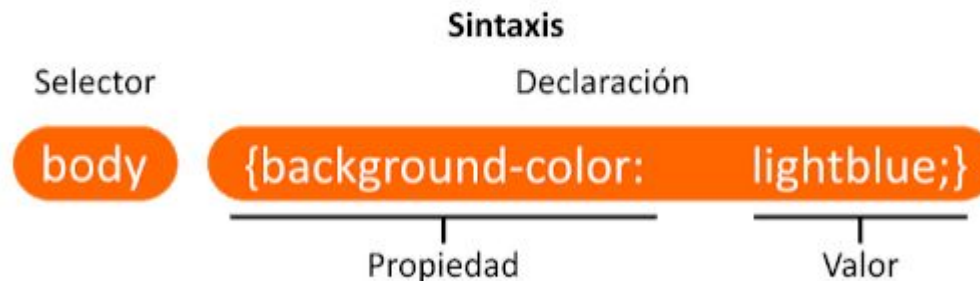
CSS Selectors (Generals)

General Selectors: You can define styles for each of the element types.

```
h1{
    color:red;
    background-color: royalblue;
    }
```
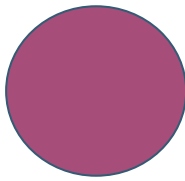
CSS Selectors (Descendant Selectors)

- **Descendant Selectors:** Suppose you want to apply a style rule to a particular element only when it lies inside a particular element.

```
ul strong{
    color:#36CFFF;
    }
```

- Example: As given in the example, style rule will apply to element only when it lies inside tag.

CSS Selectors (Child Selectors)
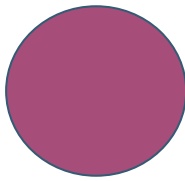
• **Child Selectors:** Similar to the descendant selectors, but have different functionality.

```
body>p{ font-size: large; }
```

Example: As given in the example, style rule will apply to element only when they are direct childs of tag.
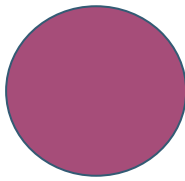
CSS Selectors (Class Selectors)

Class Selectors: Define style rules based on the class attribute of the elements. All elements having that class will be formatted.

```
.product{

color:red;

font-size: large;

}

<h2 class="product">Sample Web Page</h2>

<ol class="product">

<li><a href="http://www.columbia.edu/~fdc/sample.html#basics">

Creating a Web Page</a></li>

</ol>
```
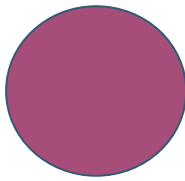
CSS Selectors (Class Selectors)

- **Class Selectors:** You can combine different selectors. For example, you can make a format apply only to elements h1 with the class product.

```
h1.product{
 color:red;
font-size: large; }
```

- **Class Attribute:** An element can have more than one class defined.
- `<h2 class="product heading">Sample Web Page</h2>`

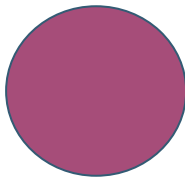# CSS Selectors (ID Selectors)

- ID Selectors: Format the element that has the specific id defined as an attribute.

```
<h1 id="tituloPrincipal">Data Analytics</h1>
#tituloPrincipal{
color:red;
font-size: large;
}
```

An element can only have one id, and it has to be unique

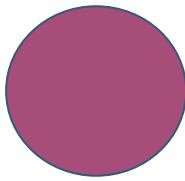# CSS Selectors (Grouping Selectors)

- **Group Selectors:** You can apply a style to many selectors if you like. Just separate the selectors with a comma.

```
h1,h2,h3{
color:royalblue;
font-weight: normal;
letter-spacing: 4em;
}


#content,#footer,#supplement{
position: absolute;
left:510px;
width:200px;
}
```
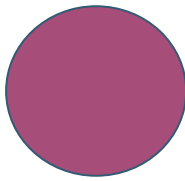
Cascade

- Stylesheets cascade — at a very simple level this means that the order of CSS rules matter; when two rules apply that have equal specificity the one that comes last in the CSS is the one that will be used

This is my heading.

```
h1 {
    color: red;
}
h1 {
    color: blue;
}
```
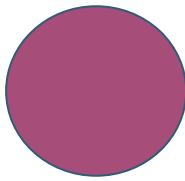
```
<h1>This is my heading.</h1>
```

Specificity

- Specificity is how the browser decides which rule applies if multiple rules have different selectors, but could still apply to the same element:
  - An element selector is less specific.
  - A class selector is more specific

This is my heading.

```
.main-heading {
    color: red;
}

h1 {
    color: blue;
}
```

```
<h1 class="main-heading">This is my heading.</h1>
```

Inheritance

Some CSS property values set on parent elements are inherited by their child elements.


```
• Default link color
• Inherit the link color
• Reset the link color
• Unset the link color
```

```css
body {
    color: green;
}

.my-class-1 a {
    color: inherit;
}

.my-class-2 a {
    color: initial;
}

.my-class-3 a {
    color: unset;
}
```

```html
<body>
<ul>
    <li>Default <a href="#">link</a> color</li>
    <li class="my-class-1">Inherit the <a href="#">link</a> color</li>
    <li class="my-class-2">Reset the <a href="#">link</a> color</li>
    <li class="my-class-3">Unset the <a href="#">link</a> color</li>
</ul>
</body>
```

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Eskerrik asko
Muchas gracias
Thank you
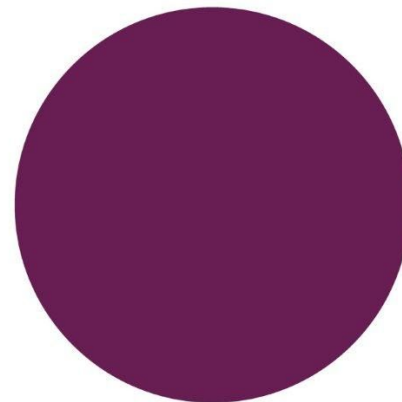
EMAKUMEEN AURKAKO
INDARKERIARI EZ

NO A LA VIOLENCIA
CONTRA LAS MUJERES