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Web Programming and Problem Solving

Intro to CSS

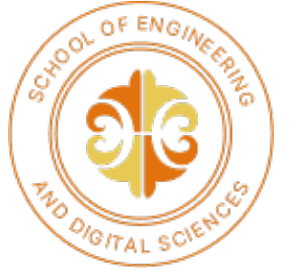
Date: 05.09.2022

Instructor: Zhandos Yessenbayev



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Content

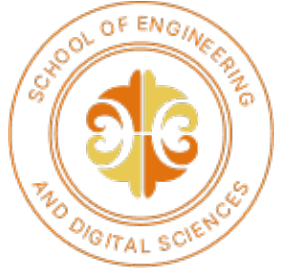


- What is CSS?
- CSS syntax
- CSS selectors
- Debugging CSS
- Resources

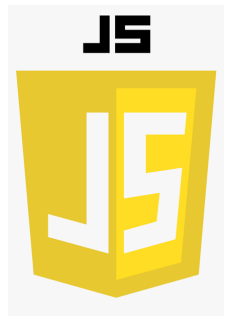


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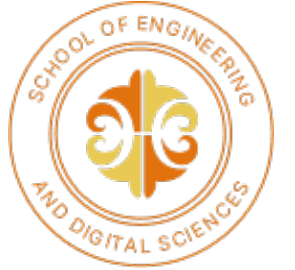
HTML, CSS, JavaScript



- **Hyper-Text Markup Language (HTML)** is the standard markup language for documents designed to be displayed in a web browser.
 - It describes the structure of the web page
- **Cascading Style Sheets (CSS)** is a stylesheet language used to describe the presentation of a document written in HTML.
 - It describes the **style** of the web page
- **JavaScript (JS)** is a lightweight and interpreted programming (or scripting) language for Web pages.
 - It adds behavior to the web page



What is CSS?

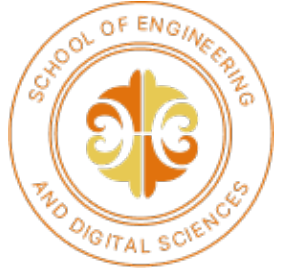


- **CSS** is
 - a **stylesheet language** used to describe the presentation of a document written in HTML;
 - one of the **main technologies** of the Web together with HTML and JavaScript;
 - proposed by **Hakon Wium Lie**, a Norwegian web pioneer, while working with Tim Berners-Lee at CERN in 1994;
 - maintained by **World Wide Web Consortium (W3C)**.





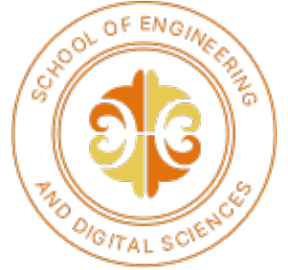
Adding CSS



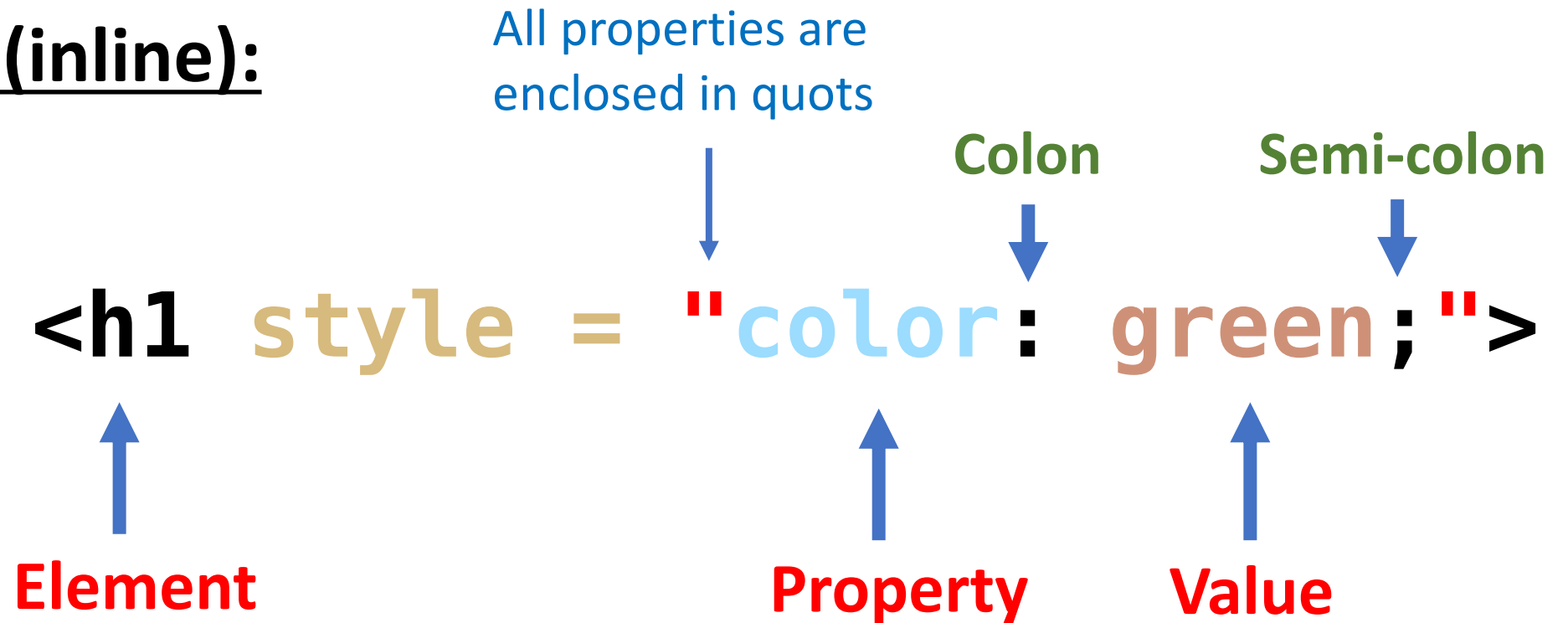
- There are three ways to add CSS to your HTML file:
 - **Inline** styles - inside an HTML element
 - **Internal** styles - inside an HTML document
 - **External** styles - external file(s) linked to an HTML document
- There are also **browser's default** styles (external)



CSS Syntax

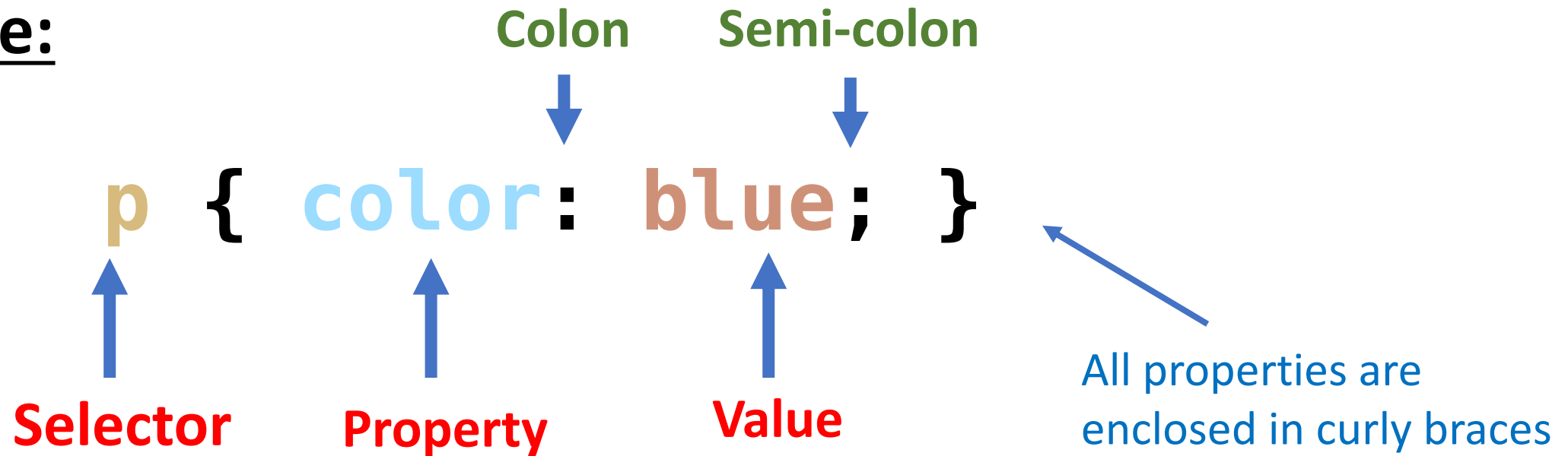


CSS Rule (inline):



CSS Syntax

CSS Rule:



- What if we want to change a **particular** paragraph?
 - How do we **select** a specific element?
- What if one element is changed in **several** places?
 - How to resolve the **conflicts**?

Hello, World!

Paragraph 1

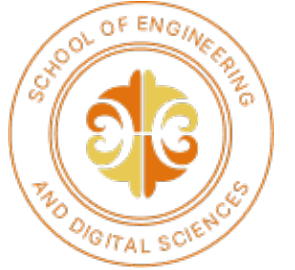
Paragraph 2

- Item1
- Item2
- Item3

Paragraph 3



CSS selectors



- To distinguish between elements, we use **selectors**:
 - Element Types (Tags)
 - Element Classes
 - Element Attributes
 - Element IDs
 - Element positions in DOM



Element Selectors

Selection of one or more **elements**:

```
body {  
  margin: 0;  
  padding: 0;  
}
```

Selects and changes the properties of **body** element

```
h1, p {  
  color: blue;  
  font-size: 12pt;  
}
```

Selects and changes the properties of **h1** and **p** elements
(Note the comma in between)

Class Selectors

Class is an identifier that can group together multiple elements

```
<p class="second"> ... </p>  
<li class="second item"> ... </li>
```

Definition of the class **second** for two elements. Elements can belong to **several** classes.

```
.second {  
  color: red;  
}  
li.item {  
  color: purple;  
}
```

Selects the elements with the specified class (**second** or **item**)
Note a dot before class name

Attribute Selectors

Selection of the elements by their attributes

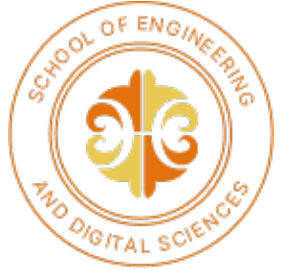
```
h1[style] {  
    text-align: center;  
}
```

Selects all **h1** tags with their **style** attribute defined

```
li[name] {  
    color: gray;  
}  
  
li[name="item1"] {  
    color: orange;  
}
```

Selects all **li** elements with their **name** attribute defined as well as those which have specific **values** for **name** attribute

ID Selectors



ID is an identifier of an element unique within the document

```
<p id="last"> ... </p>
```



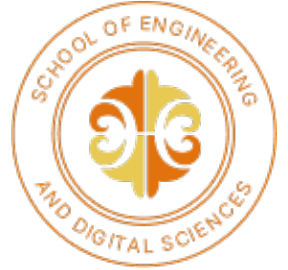
Assignment of **ID** to the element

```
#last {  
  color: red;  
  font-size: 15pt;  
}
```



Selects the elements by its **ID**
Note a hash before the ID

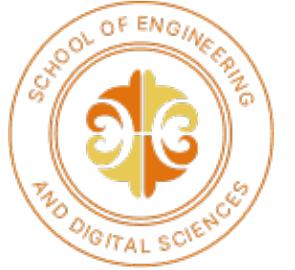
Debugging CSS



- To inspect and debug CSS, the browsers have a special instrument called **Developer Tools**
 - **Chrome:**
 -  > More Tools -> Developer Tools 
 - **Mozilla:**
 -  > More Tools > Web Developer Tools
 - **Internet Explorer:**
 - Tools Menu -> Developer Tools. (F12 key)
 - **Safari:**
 - Develop Menu -> Show Web Inspector (Option + Command + I)
 - If you don't see the Develop menu in the menu bar, choose Safari > Preferences, click Advanced, then select "Show Develop menu in menu bar."



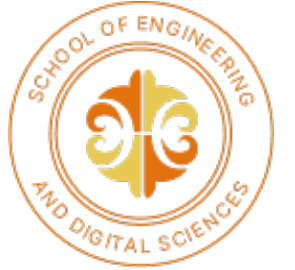
Resources



- Best **resources** for tutorials and references:
 - W3schools: <https://www.w3schools.com/css>
 - MDN Web Docs: <https://developer.mozilla.org/en-US/docs/Web/CSS>
 - CSS-TRICKS: <https://css-tricks.com/>
 - W3.org: <https://www.w3.org/Style/CSS/>



Summary



- **Key takeaways:**

- CSS uses special **rules** to select and change the parameters
- The **section** can be done by:
 - Element names
 - Class names
 - Attribute name and their values
 - IDs of the elements
- For **debugging** CSS, we use browser's Developer Tools
- To improve our CSS skills, we use and read online **resources**

Thanks for Attention!