# Introduction to HTML and CSS



**SoftUni Team**

**Technical Trainers**

Software University

SoftUni

Software University
https://softuni.bg

# Table of Contents




# Have a Question?

Software University

## sli.do

# #html-css

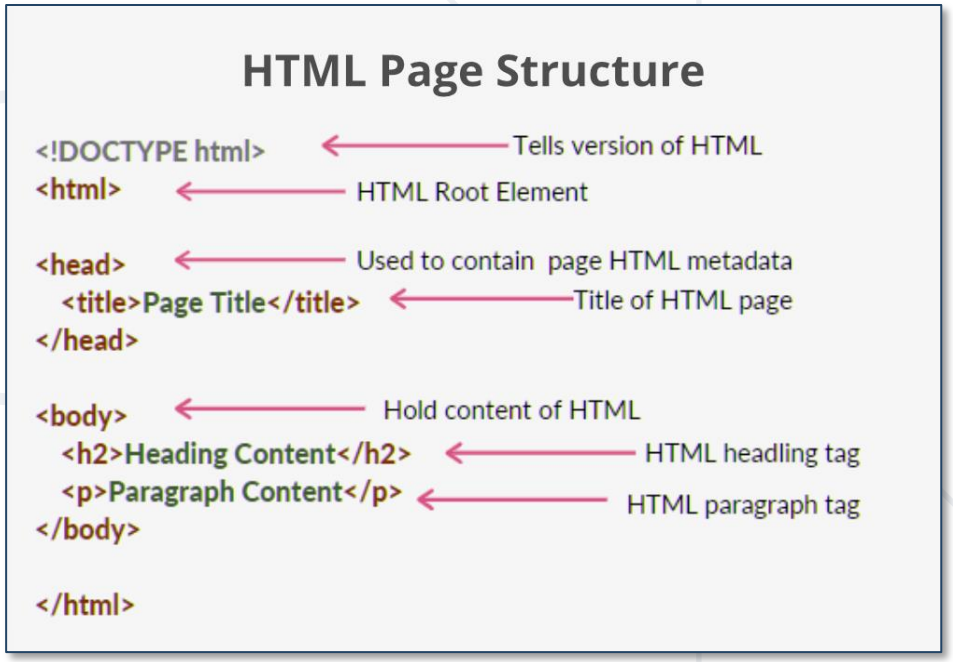

# Introduction to HTML

# What is HTML?

- HTML is a markup language
- HTML is the basis for creating web pages and other information that can be displayed in a web browser
- Language for expressing semantic structure in textual documents

# What is HTML?

- HTML is a language for describing web pages
- HTML documents contain HTML tags and plain text
- A markup language is a set of markup tags
- The tags describe document content



# What is HTML?

- **HTML** is consumed by **web browsers**
- The purpose of a **web browser** is to read HTML documents and compose them into visible or audible web pages.
- **The browser** does not display the HTML tags, it uses the tags to interpret the content of the page.

# HTML Tags

- Tags are keywords surrounded by angle brackets

```
'<' + 'html' + '>' ▸ <html>
'<' + 'head' + '>' ▸ <head>
'<' + 'body' + '>' ▸ <body>
'<' + 'p' + '>' ▸ <p>
```

# HTML Tag Pairs

- HTML tags normally come in pairs

```
'<' + 'p' + '>' and '</' + 'p' + '>'
```

- The first tag in a pair is the start tag, the second tag is the end tag
- The end tag is written like the start tag, with a forward slash before the tag name
- Start and end tags are also called opening tags and closing tags

# HTML Tag pairs

- Examples

```
Opening tag                    Closing tag

'<' + 'html' + '>'          '</' + 'html' + '>'
'<' + 'head' + '>'          '</' + 'head' + '>'
'<' + 'body' + '>'          '</' + 'body' + '>'
 '<' + 'p' + '>'            '</' +  'p'   + '>'
```

# Main HTML Tags

- Examples

```
<html></html>
```

*Describes the start and end of the web page/document*

```
<head></head>
```

*Describes the start and end of the metadata section of the document*

# Main HTML Tags

Software University

- Examples

```
<body></body>
```

*Describes the start and end of the web page/document*

```
<title></title>
```

*Describes the start and end of the title section of the document*

# Your first HTML document

Software University

```
<html>
	<head>
		<title>Simple HTML document example</title>
	</head>
	<body>
		<h1>Simple HTML document example</h1>
	</body>
</html>
```

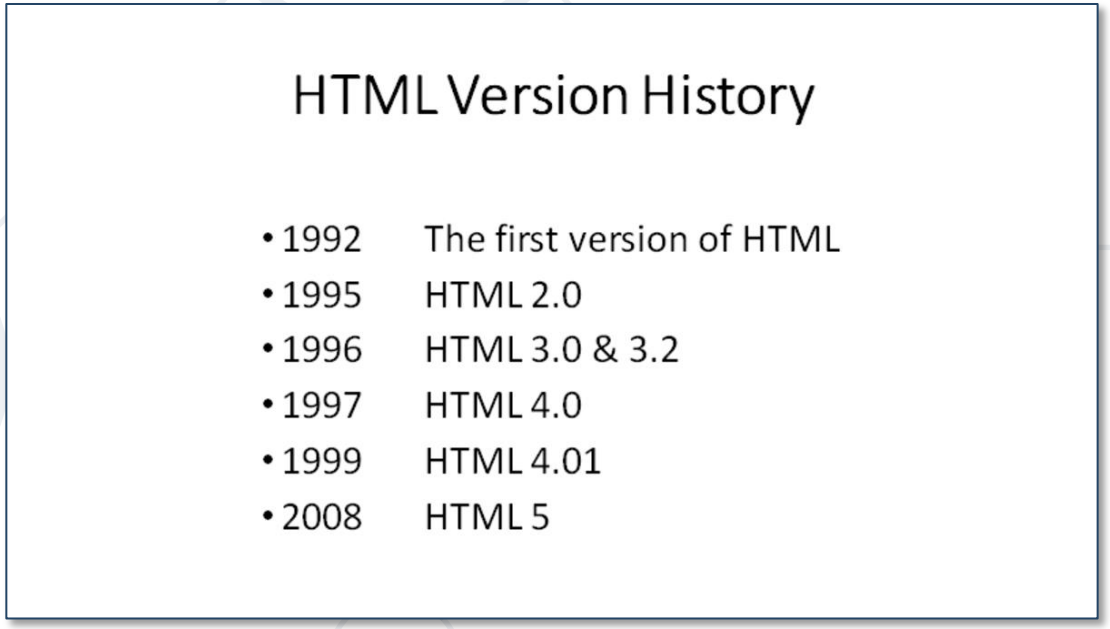
# HTML document structure

Software University

```
<html>
    <head>
        <title>Page title</title>
    </head>
    <body>
        <h1>This is a heading</h1>
        <p>This is a paragraph.</p>
        <p>This is another paragraph.</p>
    </body>
</html>
```

# HTML Versions

- Time passes, people think of new ways to entertain themselves. So new versions of HTML have been created.
- How do we differentiate between the different versions?



# THE <!DOCTYPE> DECLARATION

- There are many different documents on the web, and a browser can only display an HTML page 100% correctly if it knows the HTML type and version used.

```
<!DOCTYPE html>
```

# Your first HTML document

Software University

```
<!DOCTYPE html>
<html>
      <head>
            <title>Simple HTML document example</title>
      </head>
      <body>
            <h1>Simple HTML document example</h1>
      </body>
</html>
```

# More HTML Tags

Software University

## Headings

```
<h1>This is a level 1 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>
```

## Paragraphs

```
<p>This is a paragraph</p>
```

# More HTML Tags

Software University

## Text formatting

```
<strong>All of this text will appear bold</strong>
<em>All of this text will appear italic</em>
```

## Links

```
<a href="https://softuni.bg">Click this to go to SoftUni.bg</a>
```

## Images

```
<img src="/images/logo.png">
```

# More HTML Tags

Software University

## Ordered List

```
<ol>
      <li>List item</li>
      <li>List item</li>
</ol>
```

## Unordered List

```
<ul>
      <li>List item</li>
      <li>List item</li>
</ul>
```

# More HTML Tags

Software University

## Definition List

```
<dl>
      <dt>Definition title</dt>
      <dd>Definition description</dd>
      <dt>Definition title</dt>
      <dd>Definition description</dd>
</dl>
```

# More HTML Tags

Software University

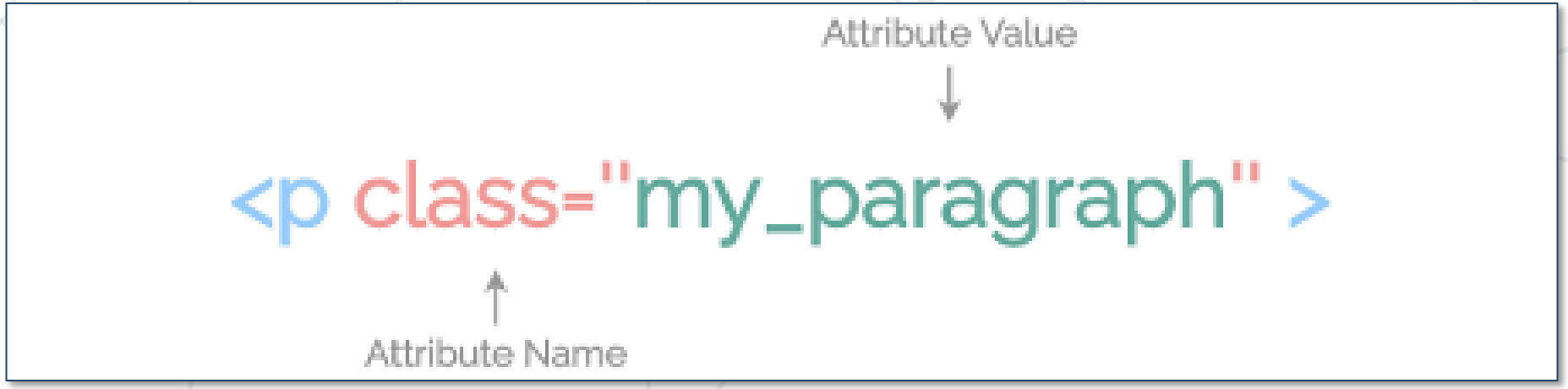
## Table

```
<table>
        <thead>
                <tr>
                        <th>Table header 1</th>
                        <th>Table header 2</th>
                </tr>
        </thead>
        <tbody>
                <tr>
                        <td>Table cell 1</td>
                        <td>Table cell 1</td>
                </tr>
        </tbody>
</table>
```

- Reference Documentation
  https://developer.mozilla.org/en-US/docs/Web/HTML/Element

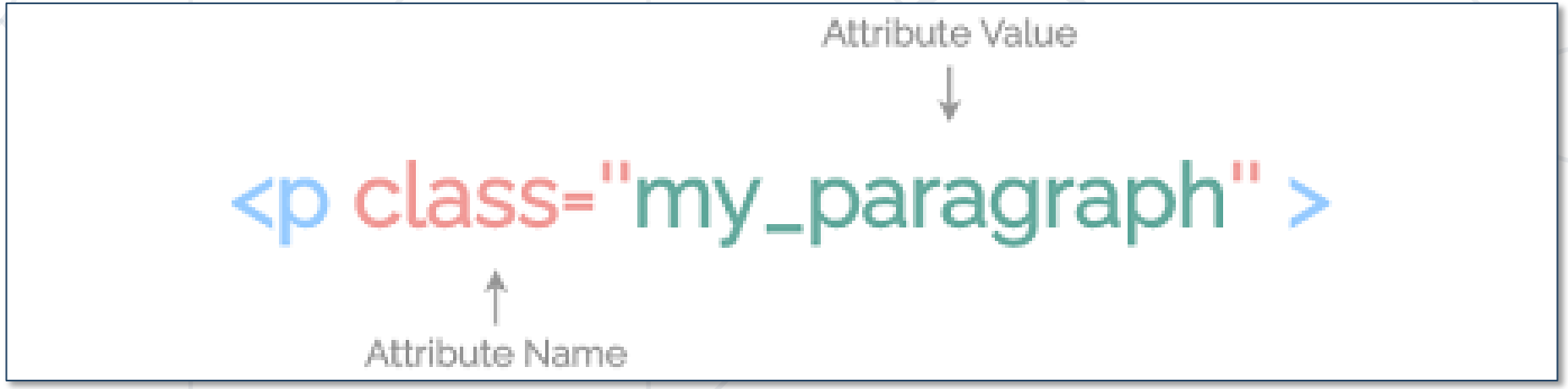
# HTML Tag Attributes

- Attributes provide additional information about HTML elements.
- Tags elements can have attributes



# HTML Tag Attributes

- Attributes provide additional information about an element
- Attributes are always specified in the start tag
- Attributes come in name/value pairs like - name="value"



# HTML Tag Attributes

Software University

- Examples

```
<a href="http://initlab.org">init Lab</a>
```

*href – gives the tag the location information for the link*

```
<img src="/images/icons/terminal.png">
```

*src – tells the tag where to look for the image file*

# HTML Tag Attributes

Software University

- Some tips
  - Always Quote Attribute Values. Attribute values should always be enclosed in quotes
  - Double style quotes are the most common, but single style quotes are also allowed
  - Be careful when combining single and double quotes, make sure you use only one type
  - Reference Documentation
  - https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes

# HTML Metadata Section

- HEAD Tag
  - The <head> element is a container for all the head elements. Elements inside <head> can include scripts, instruct the browser where to find style sheets, provide meta information, and more.

```
<html>
      <head>
            …
      </head>
      <body>
      </body>
</html>
```

# HTML Metadata Section

- The following tags can be added to the head section:
  - <title>, <style>, <meta>, <link>, <script>, <noscript>
- https://developer.mozilla.org/en-US/docs/Web/HTML/Element/head

```
<html>
      <head>
            …
      </head>
      <body>
      </body>
</html>
```

# Metadata Section

## Title

```
<head>
      <title>HTML Document title</title>
</head>
```

## Link

```
<head>
      <link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```

*The <link> tag defines the relationship between a document and an external resource.*

# Metadata Section

Software University

## Meta

```
<head>
      <!-- Define keywords for search engines: -->
      <meta name="keywords" content="HTML, CSS, XML, XHTML,
JavaScript">

      <!--Define a description of your web page:-->
      <meta name="description" content=”Courses on HTML and CSS">

      <!--Define the author of a page:-->
      <meta name="author" content=”Koko">
</head>
```

# Indentation & Code formatting

Software University

- We will be using tabs that are 4 spaces long
- **Indentation is extremely important**
  - It helps with navigating the code
  - It helps to find mistakes faster
  - It makes debugging issues faster
- Bad indentation is shameful – when sharing


# HTML Basics - Let's try it ...

Demo


# Introduction to CSS

# What is CSS?

Software University

- CSS stands for **Cascading Style Sheets**
- Styles define the visual presentation of HTML elements
- CSS solved a problem
- HTML was never intended to contain tags for formatting a document.
- With CSS the separation between semantic content and visual presentation can be achieved again.

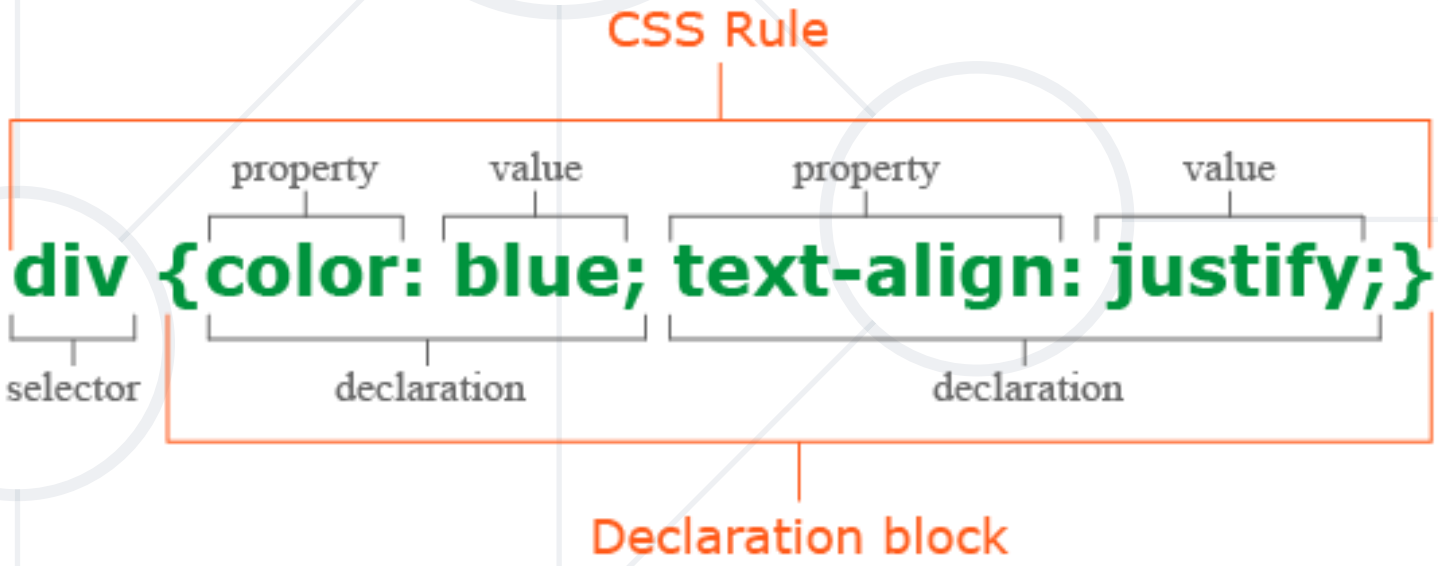
# What is CSS?

Software University

- CSS can save you a lot of work!
- External visual style guide shared across all pages of your site.
- Change the style guide - change all page's visual presentation.

# CSS Syntax

1. Every CSS document is a collection of CSS rules.
2. CSS rule has two main parts, Select and one or more declarations
3. Each declaration consists of a property and a value.



# CSS Syntax

- **CSS Rule** has two main parts:
  1. Selector
  2. One or more declarations

```
[selector] {
      [declaration]
      [declaration]
}
```

# CSS Syntax

- The **CSS Selector** is an identifier of the HTML element or the group of HTML elements you want to style.

```
body {
        ...
}
```

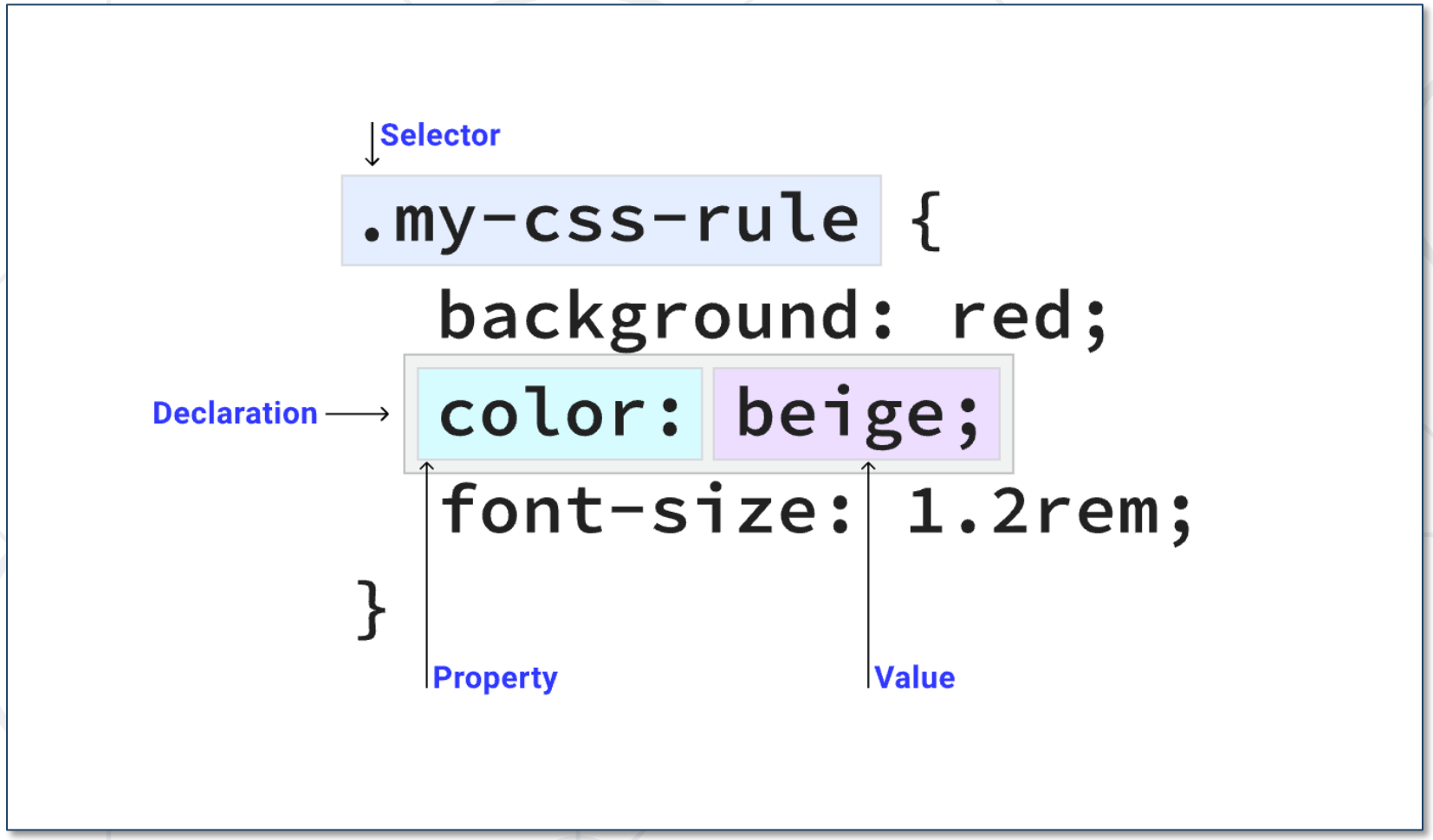
# CSS Syntax

- **CSS Declarations** end with a semicolon, and declaration groups are surrounded by curly brackets.

```
{
      font:16px/1.5 Verdana, sans-serif;
      color: #333;
}
```

# CSS Syntax

Software University



# CSS Selectors

Software University

- In CSS, selectors are used to target the HTML elements on our web pages that we want to style.
- There are a wide variety of CSS selectors available, allowing for fine-grained precision when selecting elements to style. A CSS selector is the first part of a CSS Rule.
- https://developer.mozilla.org/en-US/docs/Learn/CSS/Building_blocks/Selectors

# CSS Selectors

Software University

- **Type selectors**
  - The CSS type selector matches elements by node name. In other words, it selects all elements of the given type within a document.
  - https://developer.mozilla.org/en-US/docs/Web/CSS/Type_selectors

```
[tag-name] {
      [declaration]
      [declaration]
}
```

```
h1 {
      color: red;
      font-weight: bold;
}
```

# CSS Selectors

Software University

- **Class selectors**
  - The CSS class selector matches elements based on the contents of their class attribute.
  - https://developer.mozilla.org/en-US/docs/Web/CSS/Class_selectors

```
[tag-name] {
      [declaration]
      [declaration]
}
```

```
h1 {
      color: red;
      font-weight: bold;
}
```

# CSS Selectors

Software University

- ID selectors
  - The CSS ID selector matches an element based on the value of the element's id attribute. For the element to be selected, its id attribute must match exactly the value given in the selector.
  - https://developer.mozilla.org/en-US/docs/Web/CSS/ID_selectors

```
[tag-name] {
      [declaration]
      [declaration]
}
```

```
h1 {
      color: red;
      font-weight: bold;
}
```

# CSS Selectors

Software University

- **Attribute selectors**
  - The CSS attribute selector matches elements based on the element having a given attribute explicitly set, with options for defining an attribute value or substring value match.
  - https://developer.mozilla.org/en-US/docs/Web/CSS/Attribute_selectors

```
[attribute="value"] {
      [declaration]
      [declaration]
}
```

```
[href="https://softuni.bg"] {
      color: red;
      font-weight: bold;
}
```

# CSS Selectors

Software University

- **Universal selector**
  - The CSS universal selector (*) matches elements of any type.
  - https://developer.mozilla.org/en-US/docs/Web/CSS/Universal_selectors

```
* {
    [declaration]
    [declaration]
}
```

```
* {
    color: red;
    font-weight: bold;
}
```

# CSS Combinators

Software University

- **Descendant combinator**
  - The descendant combinator — typically represented by a single space (" ") character — combines two selectors such that elements matched by the second selector are selected if they have an ancestor (parent, parent's parent, parent's parent's parent, etc.) element matching the first selector.
  - https://developer.mozilla.org/en-US/docs/Web/CSS/Descendant_combinator

```
header p {
        color: red;
        font-weight: bold;
}
```

# CSS Combinators

Software University

- **Selector list**
  - The CSS selector list (,) selects all the matching nodes. A selector list is a comma-separated list of selectors.
  - https://developer.mozilla.org/en-US/docs/Web/CSS/Selector_list

```
header, p, div {
      color: red;
      font-weight: bold;
}
```

# CSS Combinators

Software University

- **Child combinator**
  - The child combinator (>) is placed between two CSS selectors. It matches only those elements matched by the second selector that are the direct children of elements matched by the first.
  - https://developer.mozilla.org/en-US/docs/Web/CSS/Child_combinator

```
header > p {
      color: red;
      font-weight: bold;
}
```

# Adding CSS to our HTML documents

Software University

- There are three ways of inserting a style sheet:
  - External style sheet
  - Internal style sheet
  - Inline style

# Adding CSS to our HTML documents

Software University

- **External Style Sheet**
  - An external style sheet is ideal when the style is applied to many pages. With an external style sheet, you can change the look of an entire Web site by changing one file. Each page must link to the style sheet using the tag.
  - The tag goes inside the head section:

```
<head>
      <link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```

# Adding CSS to our HTML documents

Software University

- Internal Style Sheet
  - An internal style sheet should be used when a single document has a unique style. You define internal styles in the head section of an HTML page, by using the style tag.

```
<head>
      <style>
            body {
                  …
            }
      </style>
</head>
```

# Adding CSS to our HTML documents

Software University

- **Inline Styles**
  - An inline style loses many of the advantages of style sheets by mixing content with presentation.
  - Do not use this method unless you have no other choice!
  - *To use inline styles, you use the style attribute in the relevant tag. The style attribute can contain any CSS property.*

```
<div style="color: red;">
      …
</div>
```

# CSS Selectors Inheritance & Specificity

Software University

- CSS relies heavily on specificity and style overwriting
- Its in the name!
- **Cascading** Style Sheets

# CSS Selectors Inheritance & Specificity

Software University

- **Cascade Order**
  - In increasing order of priority.
    1. External **<link>**
    2. In the **<head>**
    3. Inline style attribute
    4. Using **!important**

# CSS Selector Specificity

# CSS Properties

Software University

- **background**
  - background-**color**: #fff;
  - background-**image**: url(../image.png);
  - background-**repeat**: repeat | repeat-x | repeat-y | no-repeat;
  - background-**position**: top left;

# CSS Properties

Software University

- text
  - **color**: #000;
  - text-**align**: left | right | center | justify;
  - text-**decoration**: underline | overline | line-through | none;
  - text-**transform**: uppercase | lowercase | capitalize;
  - text-**indent**: 50px;

# CSS Properties

Software University

- font
  - font-**family**: Verdana, Arial, sans-serif
  - font-**style**: italic | normal;
  - font-**size**: 16px;
  - font-**weight**: bold | normal;

# CSS Properties

Software University

- **border**
  - border-**style**: solid | dotted | dashed | double;
  - border-**color**: #C00;
  - border-**width**: 2px;


# CSS Basics - Let's try it …

Demo

# Resources

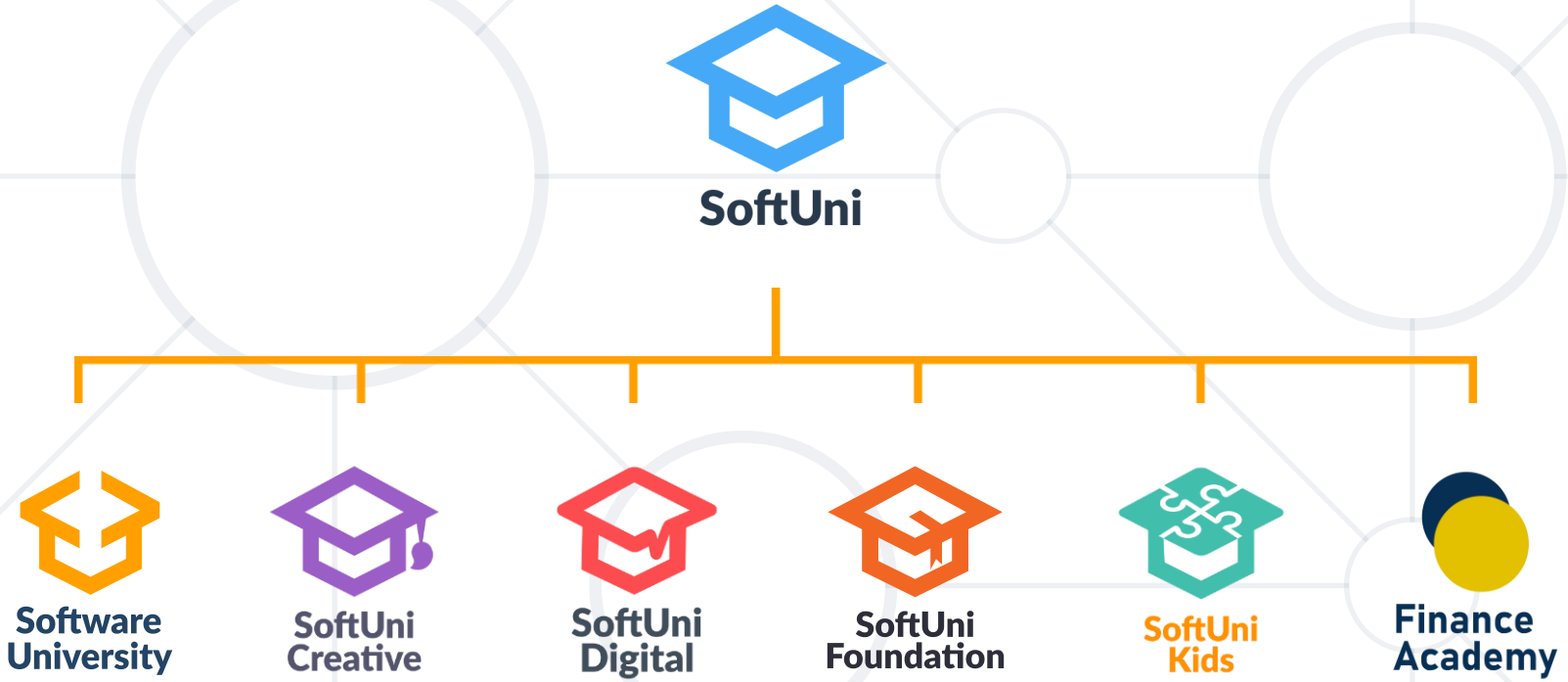
Software University

- https://en.wikipedia.org/wiki/Markup_language
- https://developer.mozilla.org/en-US/docs/Learn/Getting_started_with_the_web/How_the_Web_works
- https://developer.mozilla.org/en-US/docs/Web/HTML
- https://developer.mozilla.org/en-US/docs/Learn/Getting_started_with_the_web/HTML_basics
- https://developer.mozilla.org/en-US/docs/Web/CSS
- https://developer.mozilla.org/en-US/docs/Learn/Getting_started_with_the_web/CSS_basics

# Summary

- What is HTML?
  - HTML Syntax - Tags & Attributes
  - Common HTML Tags
  - Common HTML Attributes
- What is CSS?
  - CSS Syntax - Selectors & Rules
  - Adding CSS to our HTML documents
  - Basic CSS Selectors

# Questions?



# SoftUni Diamond Partners

Software University

SUPER HOSTING .BG

Coca-Cola HBC Bulgaria

Flutter™ International

INDEAVR
Serving the high achievers

AMBITIONED

DRAFT KINGS

SOFTWARE GROUP

BOSCH

Postbank
Решения за твоето утре

PHAR VISION

SmartIT

DXC TECHNOLOGY

createX

# License

- This course (slides, examples, demos, exercises, homework, documents, videos and other assets) is **copyrighted content**
- Unauthorized copy, reproduction or use is illegal
- © SoftUni – https://about.softuni.bg/
- © Software University – https://softuni.bg

# Trainings @ Software University (SoftUni)

- Software University – High-Quality Education, Profession and Job for Software Developers
  - softuni.bg, about.softuni.bg
- Software University Foundation
  - softuni.foundation
- Software University @ Facebook
  - facebook.com/SoftwareUniversity
- Software University Forums
  - forum.softuni.bg