

```
<!DOCTYPE html>
<html>
<head>
  <title>CSCI 111 Web Programming and Problem Solving</title>
</head>
<body>
  <h1>Week-2-Lecture-2</h1>
  <h2>Introduction to CSS</h2>
  <ul>
    <li> Dr. Talgat Manglayev</li>
    <li> Dr. Irina Dolzhikova</li>
    <li> Marat Isteleyev</li>
  </ul>
</body>
</html>
```

outline

```
<ol>
```

```
  <li>What is CSS?</li>
```

```
  <li>CSS syntax</li>
```

```
  <li>CSS selectors</li>
```

```
  <li>Debugging CSS</li>
```

```
  <li>Resources</li>
```

```
</ol>
```

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.



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 to HTML page

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)

Adding CSS to HTML inline

html element

CSS
property **name**

CSS
property **value**

```
<h1 style="color : red;">Week-2-Lecture-2</h1>
```

quotations
start

colon

semi-colon

quotations
end

Adding CSS to HTML **internal** or **external**

```
<head>

<style>

  selector    p

  curly braces start  {

    property name  color : blue;
                   font-weight: bold;
    property value

  curly braces end  }

</style>

</head>
```

The diagram illustrates the syntax of an internal CSS style block within an HTML document. It shows the following structure:

- `<head>`: The opening tag for the head section.
- `<style>`: The opening tag for an internal CSS style block.
- `selector`: An annotation pointing to the `p` selector.
- `curly braces start`: An annotation pointing to the opening curly brace `{`.
- `property name`: An annotation pointing to the `color` and `font-weight` parts of the rules.
- `property value`: An annotation pointing to the `blue` and `bold` parts of the rules.
- `curly braces end`: An annotation pointing to the closing curly brace `}`.
- `</style>`: The closing tag for the internal CSS style block.
- `</head>`: The closing tag for the head section.

Arrows indicate the mapping from the annotations to the specific parts of the CSS code: `color : blue;` and `font-weight: bold;` are the two rules defined within the style block.

CSS Syntax

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?

Questions and Answers related to HTML and CSS

Do I really need to learn HTML and CSS?

```
<style>
```

```
p { color : blue; }
```

```
h1 { color : red; }
```

```
h2 {color: green;}
```

```
</style>
```

HTML and CSS, unlike programming languages, have no competitors. If you want to create web pages and start a career in web design, web development, or even web journalism, you must have a basic understanding of HTML and CSS. Fortunately, the fundamentals of HTML and CSS are simple.

Is HTML CSS enough to get a job?

Can I get a job with just HTML and CSS? It's a question we get here at Skillcrush all the time, and the short answer is yes, with caveats. If you want to start working in tech, the first thing you should do is learn HTML and CSS.

What is the fastest way to learn HTML and CSS?

As with any new skill, hands-on practice is the best way to learn HTML and build these foundational skills. Once you've gone through some introductory tutorials and feel comfortable with the basics, challenge yourself to start building simple websites from scratch.

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;  
}
```

```
h1, p
```

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

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

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

Class Selectors

Class - 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

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

Selects all h1 tags with their style attribute defined

```
li[name]
{
    color: gray;
}
```

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

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

specific values for name attribute

ID Selectors

ID is an identifier of an element unique within the document

Assignment of **ID** to the element

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

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

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

Debugging CSS

To inspect and debug CSS, the browsers have a special instrument called **Developer Tools**

Chrome: View -> Developer -> Developer Tools

Safari: Develop -> 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/>

In Russian: <https://htmlacademy.ru>

Summary

- CSS uses special rules to select and change the parameters
- The selection 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