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C H A P T E R 7

Introduction to CSS

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AGENDA

- CSS Introduction

- CSS Syntax

- CSS Specificity

- CSS Comments and Units

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CSS Introduction

CSS stands for Cascading Style Sheets

CSS describes how the webpage should be displayed.

CSS can control the layout of multiple web pages in one go

CSS is the language for styling an HTML webpage.

CSS

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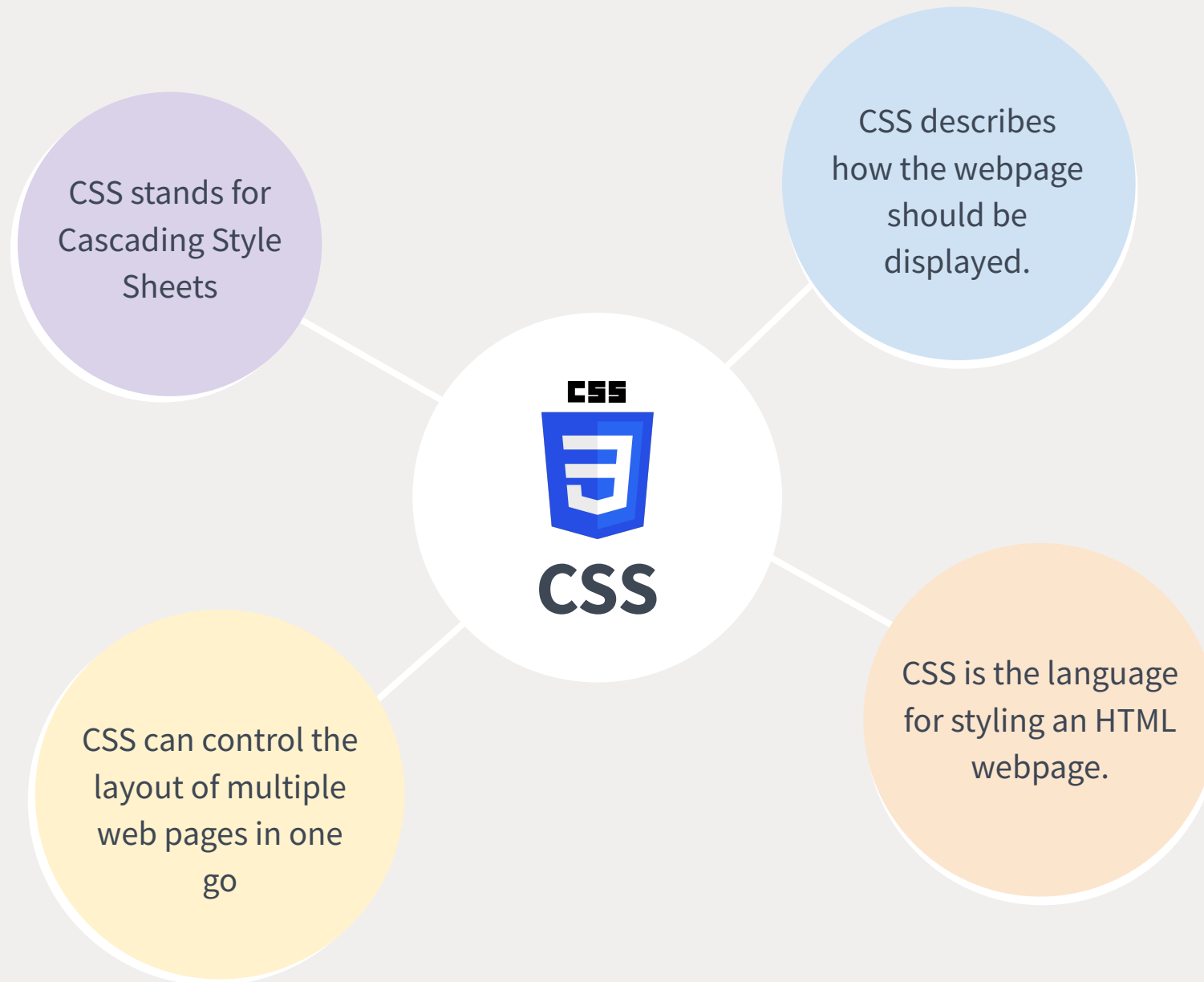
Why CSS?

HTML was NEVER intended to contain tags for formatting a web page!

HTML was created to describe the content of a web page, like:

<h1>This is a heading</h1>
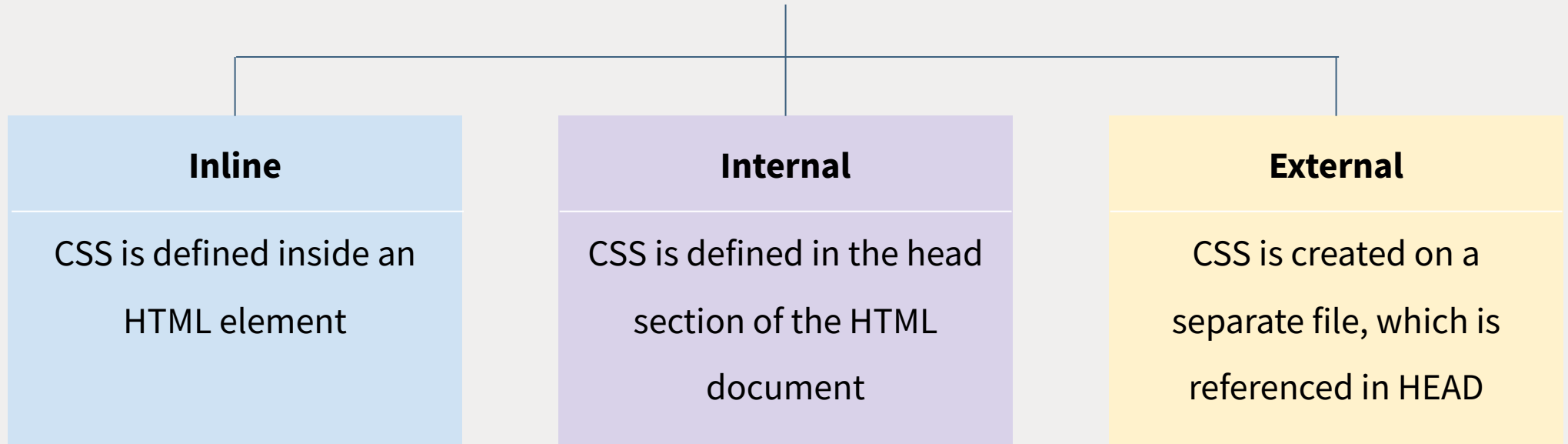
<p>This is a paragraph.</p>

When tags like <font>, and color attributes were added to the HTML 3.2 specification, it makes the code so messy. Development of large websites, where fonts and color information were added to every single page and every HTML elements, became a long and expensive process.

To solve this problem, the World Wide Web Consortium (W3C) created CSS, which removed style formatting from the HTML page
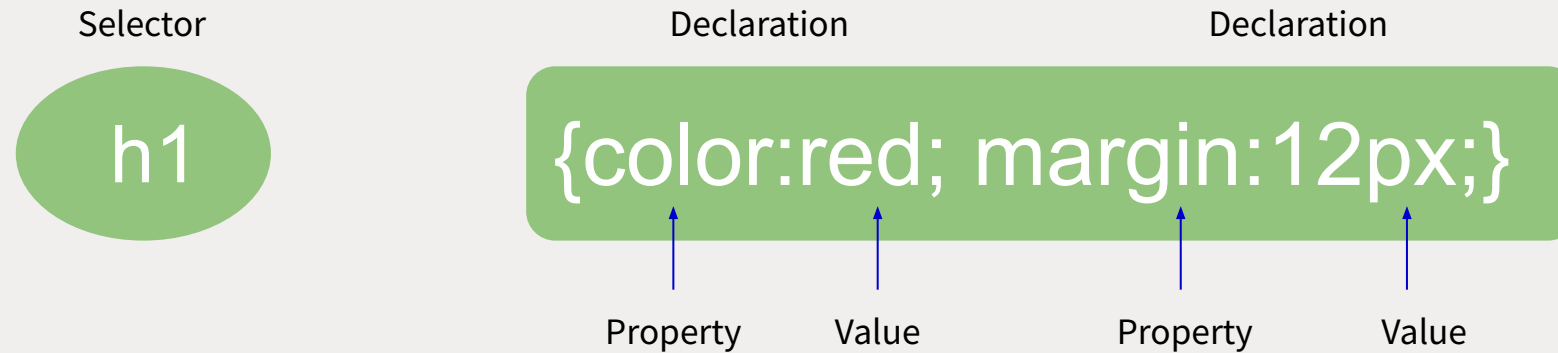
Ways to Add CSS

Three ways:

Inline	Internal	External
CSS is defined inside an HTML element	CSS is defined in the head section of the HTML document	CSS is created on a separate file, which is referenced in HEAD

CSS Syntax

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CSS Syntax

CSS consists of a **selector** and a **declaration** block

For example,

Selector

Declaration   Declaration

h1

{color:red; margin:12px;}

Property   Value   Property   Value

Explanation:

➔ The selector indicates all `<h1>` tags to be selected for styling
➔ Inside the declaration block, we are setting two properties and their corresponding values.
➔ Colour of all `<h1>` elements should be red
➔ Margin of all `<h1>` elements should be 12px
➔ Each declarations are separated by semicolons
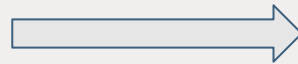
CSS Syntax

- **Consider the following HTML snippet**

```html
<h1>Hello World!</h1>
<p>These paragraphs are styled with CSS.</p>
```


- **Consider the following styling applied to it**

```css
p {
    color: red;
}
```


Explanation: Pick all <p> elements and set their color to red

Inline CSS Syntax

```html
<h1>Hello World!</h1>
<p style="color:red;font-style:italic;">
    This is a paragraph.
</p>
```


Hello World!

This is a paragraph.

For inline styles

- No selectors needed
- No curly braces needed
- Each declaration is separated by semicolons

Internal CSS Syntax

```html
<head>

    <style>

    p {

        color: red;

    }

    </style>

</head>

<body>

    <h1>This is a heading</h1>

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

</body>
```


- Internal CSS = CSS Selector + declarations
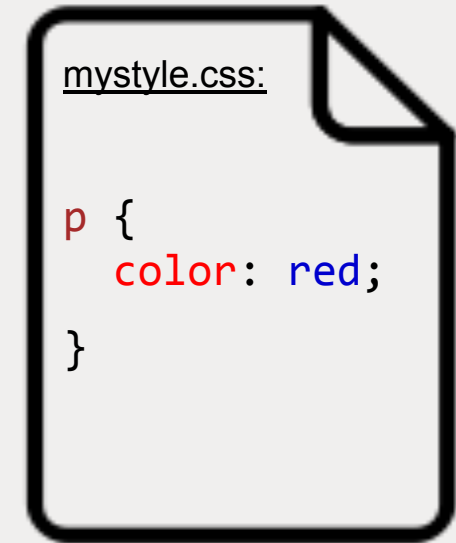- Place inside a style tag in the head portion of the HTML document

External CSS Syntax

```html
<head>
<link rel="stylesheet" href="mystyle.css">
</head>
<body>


<h1>This is a heading</h1>
<p>This is a paragraph.</p>


</body>
```

mystyle.css:

```css
p {
    color: red;
}
```

This is a heading

This is a paragraph.

- CSS are defined in a separate file (mystyle.css)
- Reference the file in the head section

CSS Specificity

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Some questions to think about...

What happens when all three of the inline/internal/external CSS are present?

What happens if they reference the same selector?

Specificity is the means by which browsers decide which CSS property values are the most relevant to an element

When multiple declarations have equal specificity, the last declaration found in the CSS is applied to the element.

Which style would get applied?

mystyle.css:

```
p {
  color: red;
}
```

External CSS

mystyle.html:

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

Internal CSS

```html
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
```

?

Both external and internal CSS are targeting the paragraph. Which styling will be applied?

Which style would get applied?

mystyle.css:

```
p {
  color: red;
}
```

External CSS

mystyle.html:

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

Internal CSS

```
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
```

This is a heading

This is a paragraph.

Internal CSS has a *higher specificity* than external CSS

What about Internal CSS vs Inline CSS?

index.html:
```
<head>
    p {
        color: blue;
    }
</head>


<h1>This is a heading</h1>

<p style="color:red">This is a paragraph.</p>
```

?

Both internal and inline CSS are targeting the paragraph. Which styling will be applied?

What about Internal CSS vs Inline CSS?

```
index.html:
<head>
    p {
        color: blue;
    }
</head>

<h1>This is a heading</h1>

<p style="color:red">This is a paragraph.</p>
```


This is a heading

This is a paragraph.

Inline CSS has a higher specificity than Internal CSS

CSS Specificity

In terms of specificity,

Inline ❯ Internal ❯ External

CSS Comments and Units

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CSS Comments

If we want to make some notes in the css file,

We can add comments by using /*..... */

```css
/* This is a comment */

p {

    margin: 12px;

}
```

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CSS Units

- Units for expressing length, for example, cm is a unit for length

- Two types of lengths:

  - Absolute length units are fixed units and displayed exactly the same length regardless of the screen size, e.g. 5cm

  - Relative length units is a length unit relative to other reference length, e.g. half of the screen size. Relative length units are usually better for building websites that could be fit in different devices and screen sizes

CSS Absolute Length Units

Unit	Description
cm	centimetres
mm	millimetres
in	inches (1in = 96px)
px	pixels (1px = 1/96th of in)
pt	points (1pt = 1/72 of in)
pc	1pc = 12pt

- We will mainly be using pixels when dealing with absolute lengths

CSS Relative Length Units

Unit	Description
em	Relative to font-size (3 em means 3 times the size of current font)
vw	Relative to browser or view width. 1 vw means 1 percent of the width
vh	Relative to browser or view height. 1 vh means 1 percent of the height
%	Relative to parent element. 50% means take 50% size of the parent element

- We will mainly be using percentages when using relative lengths

That's all for this module!

THANK YOU!

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