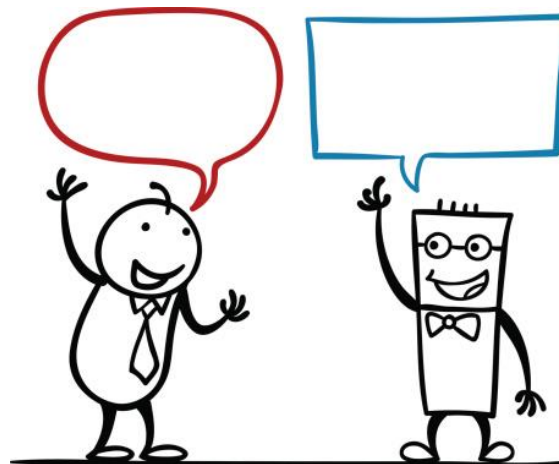# Cascade Style Sheets (CSS)

Web Authoring and Design

Benjamin Kenwright

Activity

■ Show examples of students Github websites

(5-10 Minutes)

Coursework
Individual Project

■ Individual Project
  ▷ `HTML & CSS Tutorial/Introductory Website'
■ Hosted on GitHub
  ▷ Have 3+ Weeks of History/Evidence
■ Demonstrate
  ▷ 1 to 1 session discuss/explain your html/css
■ Design/layout/theme
  ▷ Freedom is given to you
  ▷ Allow you to be creative
    • Must be a tutorial website on HTML & CSS

Marking/Deliverables

■ Demonstration Sheet
  ▷ Breakdown of the elements/criteria

Web Authoring and Design (WAD)

Practical Demonstration Sheet

Student Name: _____   Student No: _____

Date: _____

The final submission is unique to the individual student and should be customize based on their original design, specification and technical requirements (such as, design, images, formatting, ...). This demonstration sheet gives the student a list of essential features they must demonstrate in the practical session. The online digital submission should be a single .zip, including the formal report (.pdf), html code and any resources, such as, images or animations.*

0 – no feature
1 – attempt (not fully working)
2 – working (basic but needs work)
3 – outstanding (excellent example that is faultless)

☐ Short Report [9]
  ☐ Formatting (pdf, acm format)
  ☐ Sections/Content/Images
  ☐ Images/Code Snippets
Note: The report should be a professional document that details various concepts/techniques while explaining the mechanics/principles in relation to the implementation (e.g., design, tags, organisation, interesting/novel features and limitations).

☐ GitHub [3]
  3+ weeks history/evidence

☐ HTML/CSS Code [15]
  ☐ Organised/Formatting
  ☐ Comments/Warnings
  ☐ Naming/Management
  ☐ Constant Theme Multiple Pages
  ☐ Comments in the HTML/CSS

☐ Graphics [6]
  ☐ Variety of images (suitably formatted and placed)
  ☐ .jpg/.gif (six or more images)
  .alt tag set for each image

☐ Navigation [9]
  ☐ Logo Section
  ☐ Header/Footer

☐ Navigation Section

☐ Content [18]
  ☐ Contact Page
  ☐ About Page
  ☐ Home (Landing Page)
  ☐ Content Pages (Tutorials)
  ☐ Resizable (Window/Viewport)
  ☐ Different Browsers

☐ Style [12]
  ☐ Consistent Website
  ☐ Modern and Interesting (e.g., Uses colours and appropriate formatting)
  ☐ .fav icon
  ☐ Professional Design (e.g., Use of tags/styles/formatting should be done in a professional/well organised way)

☐ Required Tags/Features [12]
  ☐ <p>
 <h1>
  ☐ <form> <meta>
  ☐ <img> <a> <div>
  ☐ External .css file

☐ Other (Innovative Features) [6]
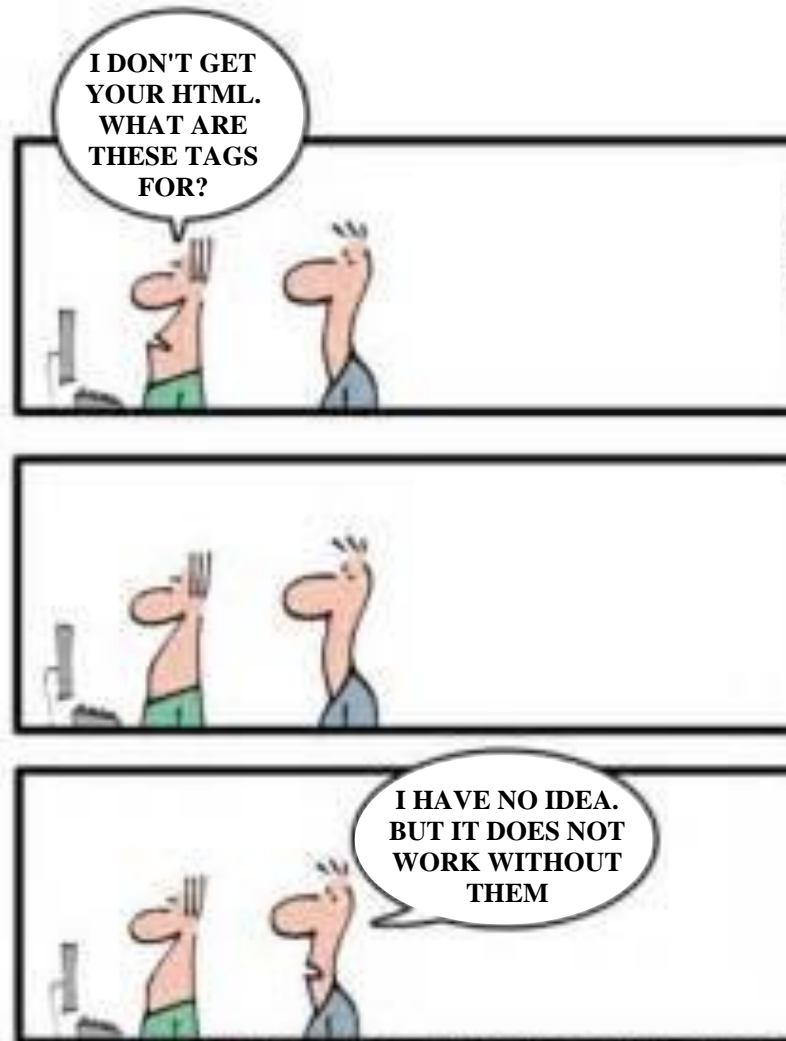 ☐ ....
  ☐ ....

TOTAL   /

Other Comments

Outline

- Review

- What are Cascade Style Sheets (CSS)?

- How to add CSS sheets to your HTML

- CSS Examples

- Summary

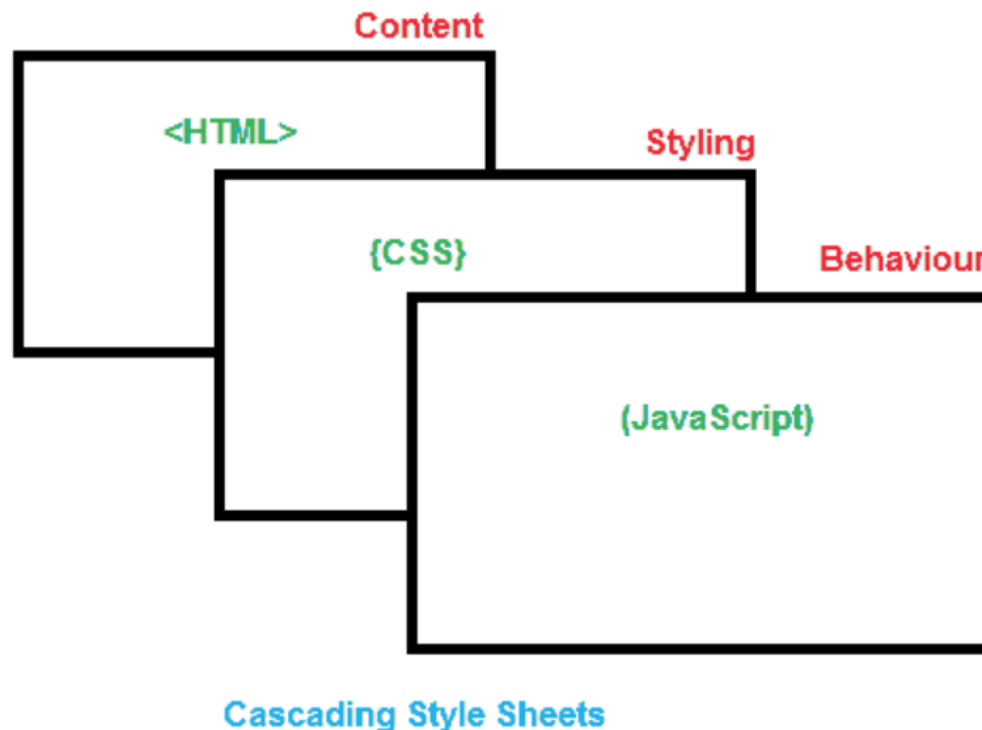- Review/Discussion

Know `YOUR' HTML

HTML Evolved

- As HTML evolved, it came to encompass a wider variety of stylistic capabilities to meet the demands of web programmers
- Split a web document into 3 layers:
  - content layer
  - presentation layer
  - behavior layer

Standard

- Sheets are now the official and standard mechanism for formatting text and page layouts

Content

<HTML>

Styling

{CSS}

Behaviour

(JavaScript)

Cascading Style Sheets

Divide and Conquer

■ While it's possible to include all three layers within the same web document, but breaking them separate gives us one important advantage
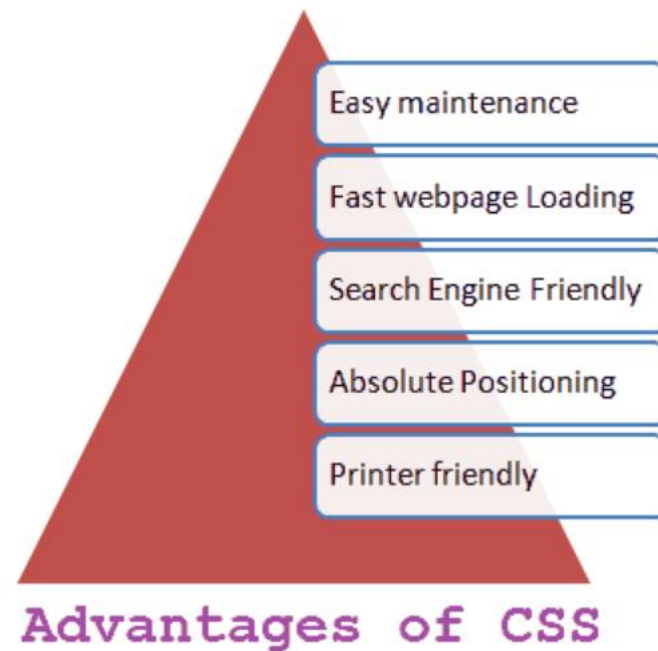
CSS	HTML
hr {color:#FF0066}	<hr color="#FF0066">

Advantages of CSS

Easy maintenance

Fast webpage Loading

Search Engine Friendly

Absolute Positioning

Printer friendly

Advantages of CSS

Why use CSS?

- One of the primary advantages of CSS is that it allows developers to separate content from its presentation layer

- Edit multiple HTML pages at one time by editing a single Style Sheet file

- Reduces file sizes and bandwidth usage.

- CSS enable you to lay out web pages exactly as you want them

Control

■ Cascading Style Sheet (CSS) is a separate language with its own syntax, which is enable you to lay out web pages exactly as you want them.

Compatibility

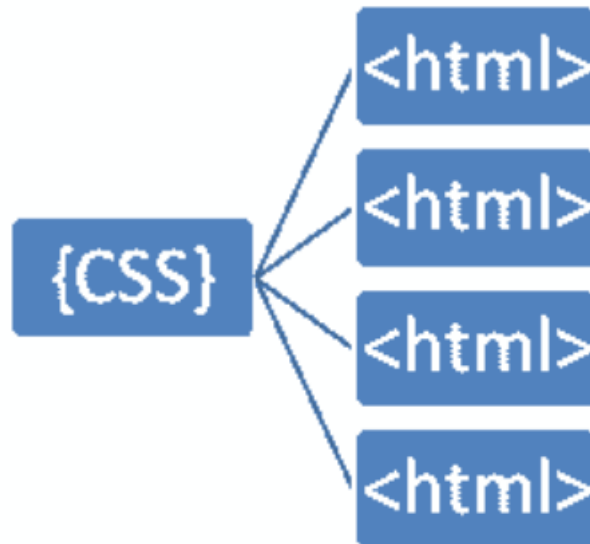Chrome   Firefox   Internet Explorer   Opera   Safari

World Wide Web Consortium (W3C)

- World Wide Web Consortium (W3C) controls the standard for defining the presentation of documents written in HTML.

- CSS controls the presentation layer in a web document so that the web developer gains more degree of control over how the website would appears.

Separating Content & Presentation Layers

■ Style sheets (CSS) are designed primarily to enable the separation of HTML document content from document presentation layer

Fact

- One single style sheet and it will reduces their size and bandwidth usage by more than **50%** in many cases

File Extension

- Cascade Style Sheets have a **.css** file extension . CSS has a simple syntax like HTML and uses a number of English keywords to specify the names of various style properties

CSS Versions

- CSS Level 1 (CSS1) was officially released in 1996
- CSS level 2 (CSS2) specification was developed by the W3C and published as a recommendation in 1998
- The earliest CSS level 3 (CSS3) drafts were published in 1999
  - ▷ CSS level 3 is divided into several separate documents called modules
- There is no single CSS4 specification (yet)

How does CSS Work?

- Cascading Style Sheet (CSS) is a completely different approach to webpage styling and layout

- Document`s HTML content must combine with style information

- For example:
  - ▷ Content of a page goes into an HTML file, and the style information goes into a style sheet

Linking

■ Cascading Style Sheet (CSS) works by allowing you to associate rules with the tags that appear in an HTML document
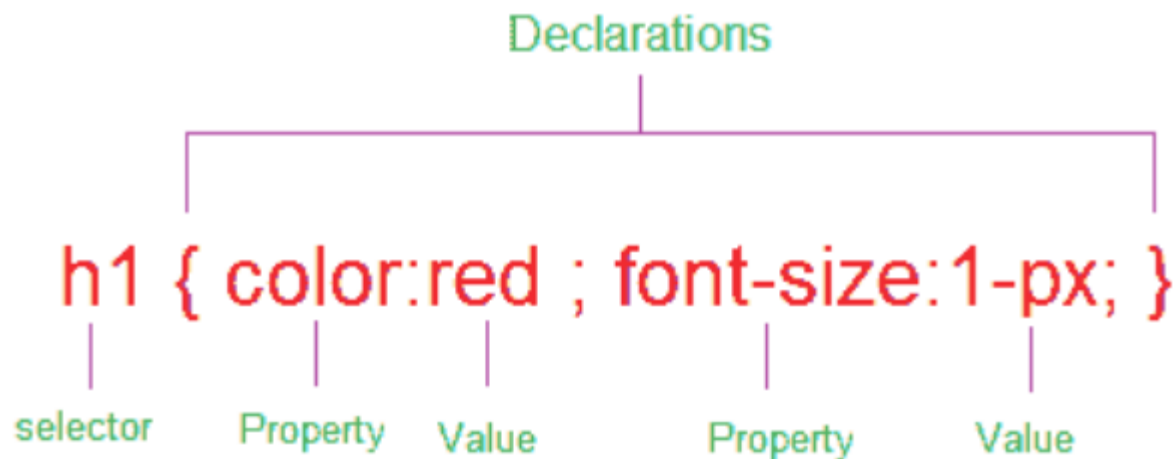
Selector

Declaration

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

CSS Rules

■ Rules govern how the content of those elements should be rendered. A rule set consists of a selector followed by a declaration block

Declarations

h1 { color:red ; font-size:1-px; }

selector   Property   Value   Property   Value

Declarations & Properties

■ CSS selectors are patterns used to select the elements you want to style:

▷h1 {color:red} - here h1 is the selector

■ Declarations, which sets out how the elements referred within the selector should be styled

▷h1 {color:red} - here color:red is declaration

■ Declaration is also split into two parts, separated by a colon : property and value

Example

- A simple example Applying CSS and HTML tags in an HTML page

```
<html>
        <body>

                // CSS implementation
                <hr style="color:#FF0066;">

                // HTML implementation
                <hr color="#FF0066">
        </body>
</html>
```

1. Inline Style

```
<p style="color: #0000FF">...<p>
```

2. Embedded Style

```
<style>.......</style>



<head>
        <style>
                ........
                ........
        </style>
</head>
```

Embedded Style Example

```html
<html>
	<head>
			<title>Embedded Style Sample</title>
			<style type="text/css">
					h1{
							color: #0000FF;
					}
					h2{
							color: #00CCFF;
					}
			</style>
	</head>
	<body>
			<h1>Embedded Style testing</h1>
			<h2>Next Line</h2>
	</body>
</html>
```

3. External Style

■ `<link rel="stylesheet" type="text/css" href="`**`styles.css`**`" />`

Example

■ .css File

```
h1{
color: #0000FF;
  }
h2{
 color: #00CCFF;
}s
```

■ .html File

```
<html>
  <head>
  <title>Embedded Style Sample</title>
   <link rel="stylesheet" type="text/css"
        href="styles.css" />
   </head>
<body>
    <h1>Embedded Style Example</h1>
   <h2>Next Line</h2>
</body>
</html>
```

Question

■ What will happen in this case?

```
<style h1 {color: green;}>
<h1>Hello</h1>
```

a) h1 heading becomes green

b) error

c) h1 heading disappears

d) nothing happens

Answer

- Answer: c)

Question

- Which of the following is the correct way to applying style to a document?

a) Use an external style sheet, either by importing it or by linking to it

b) Directly embed a document-wide style in the head element of the document

c) Set an inline style rule using the style attribute directly on an element

d) All of the above

Answer

- Answer: d)

Question

■ What will happen in this case?

```
<p style="color: red">text</p>
```

a) make that specific paragraph red.

b) error

c) nothing happens

d) none of the above

Answer

- Answer: a)

Lengths and Units

Relative Units

Absolute Units

Percentages

Examples

- Relative units
  - ▷e.g., `em'
- Absolute units
  - ▷e.g., 'mm', 'cm'
- Percentages
  - ▷e.g., '%'

```
p {
        font-size: 0.8em;
}
```

```
p {
        font-size: 90%;
}
```

Question

■ Which of the following measurement defines a measurement in centimeters?

a) c

b) cm

c) centi

d) centimeter

Answer

- Answer: b)

Example: div {margin-bottom: 1cm;}

Question

■ Which of the following measurement defines a measurement in points?

a) px

b) in

c) em

d) pt

Answer

- Answer: d)

Explanation: Defines a measurement in points. A point is defined as 1/72nd of an inch. A point does not equate to a pixel unless there are 72 pixels per inch onscreen.

Question

- The _____property is used to set the color of the text.

a) pallet

b) colour

c) color

d) text-decoration

Answer

- Answer: c)

Question

■ Which style is this?

```
<body style="background-color: lightcyan">
```

a) Inline Styles

b) External Style Sheet

c) External Style Stylist Sheet

d) None of the above

Answer

- Answer: a)

Question

■ Is this correct way to apply css.State true or false.

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

a) True

b) False

Answer

- Answer: a)

Summary

- Overview of Cascade Style Sheets (CSS)
- Advantages and implementation details for CSS in HTML
- Important you understand why and how to use CSS
- Examples
- Hands-On/Practical

This Week

- ■ Review Slides
- ■ Read Associated Chapters
- ■ Online Quizzes
  - ▷ Additional quizzes each week
- ■ Do this weeks Tasks
  - ▷ Implement Style Sheet Examples
- ■ Update Github Website
  - ▷ Regularly make commits/updates
  - ▷ Structure your/folders/sections
    - • Manage/demonstrate different features/techniques

Questions/Discussion

Question

- The _____ property specifies the type of positioning method used for an element.

a) align

b) float

c) position

d) padding

Answer

- Answer: c

Question

■ Which of the following measurement defines a measurement relative to the height of a font in em spaces?

a) px
b) in
c) em
d) pt

Answer

■ Answer: c)

Explanation: Defines a measurement relative to the height of a font in em spaces. Because an em unit is equivalent to the size of a given font, if you assign a font to 12pt, each em unit would be 12pt, thus 2em would be 24pt.

Question

■ Which of the following measurement defines a measurement in pixels?

a) px

b) in

c) em

d) pt

Answer

- Answer: a)

CSS `Styling'

Appreciate Challenges

- Have faith in yourself

- Have fun learning HTML/CSS/JS

- Rewarding and exciting topic
  - ▷ Involves commitment and hard-work