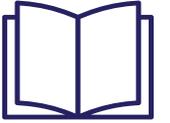




Session 5

Introduction to CSS



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What is CSS?



```
body {  
  font: x-small;  
  background: #  
  color: black;  
  margin: 0;  
  padding: 0;
```

CSS describes how HTML elements should be displayed.

CSS stands for Cascading Style Sheets.

CSS describes how HTML elements are to be displayed on screen, paper, or in other media.

CSS saves a lot of work. It can control the colour, typography and layout of multiple web pages all at once.

External stylesheets are stored in CSS files.

Understanding CSS

Imagine there is an invisible box around every element

Two types of elements - block and inline

The Cottage Garden

The *cottage garden* is a distinct style of garden that uses an informal design, dense plantings, and a mixture of ornamental and edible plants.

The Cottage Garden originated in England and its history can be traced back for centuries, although they were re-invented in 1870's England, when stylized versions were formed as a reaction to the more structured and rigorously maintained English estate gardens.

The earliest cottage gardens were more practical than their modern descendants, with an emphasis on vegetables and herbs, along with some fruit trees.

The Cottage Garden

The *cottage garden* is a distinct style of garden that uses an informal design, dense plantings, and a mixture of ornamental and edible plants.

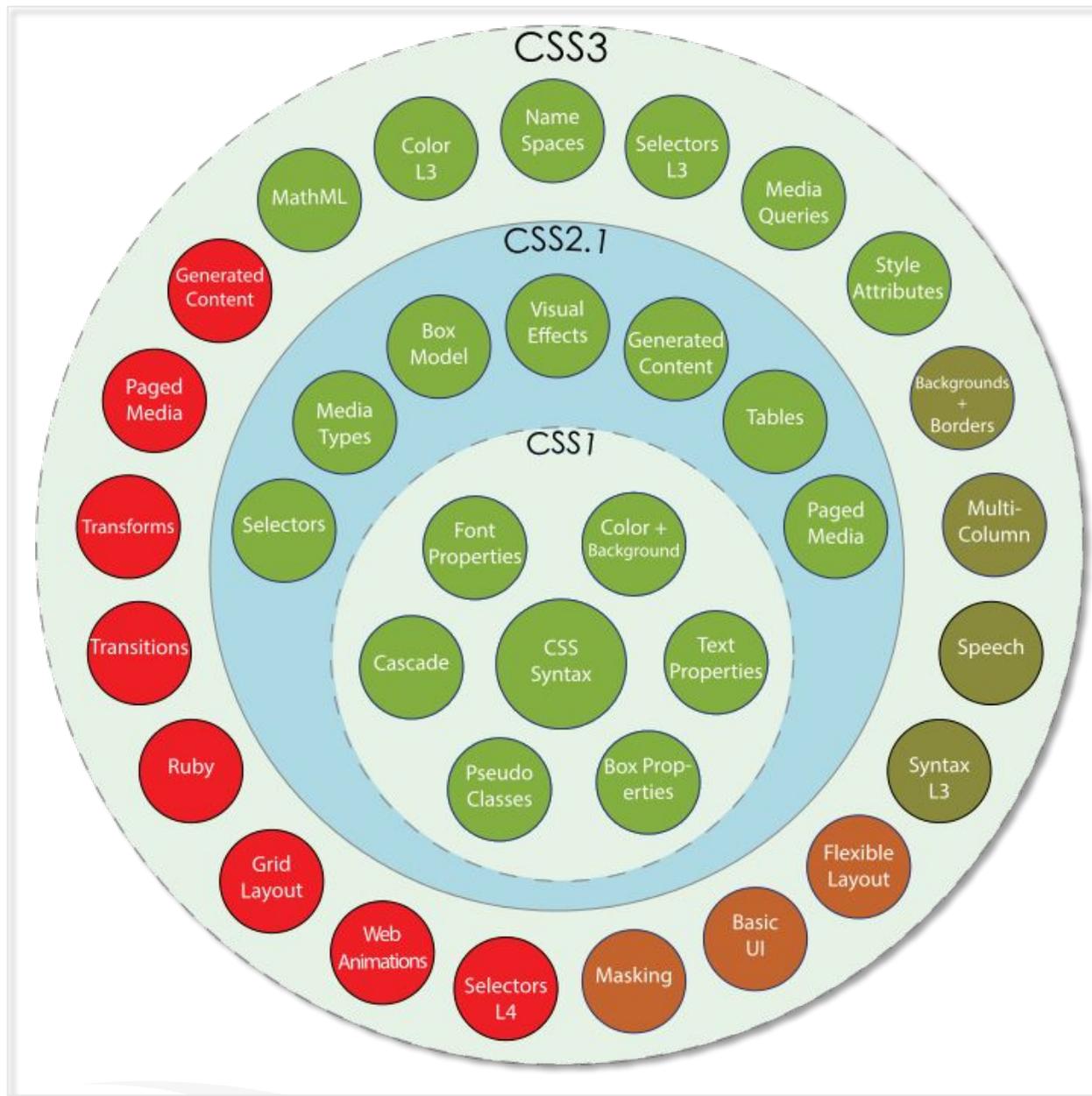
The Cottage Garden originated in England and its history can be traced back for centuries, although they were re-invented in 1870's England, when stylized versions were formed as a reaction to the more structured and rigorously maintained English estate gardens.

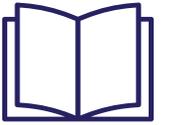
The earliest cottage gardens were more practical than their modern descendants, with an emphasis on vegetables and herbs, along with some fruit trees.

“On the right hand side, you can see the same HTML page, but I have added outlines to each of the elements so that you can see how CSS will treat each element as if it lives inside its own box.” Jon Duckett



History



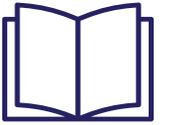


p70

Example



<http://www.csszengarden.com/>



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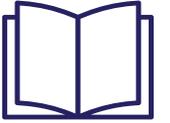
Example

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width">
    <title>My CSS experiment</title>
  </head>
  <body>
    <h1>Hello World!</h1>
    <p>This is my first CSS example</p>
    <ul>
      <li>First list item</li>
      <li>Second List item</li>
    </ul>
  </body>
</html>
```

Hello World!

This is my first CSS example

- First list item
- Second List item



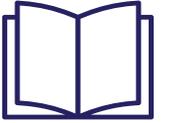
Example

```
h1 {  
  color: blue;  
  background-color: yellow;  
  border: 1px solid black;  
}  
  
p {  
  color: red;  
}
```

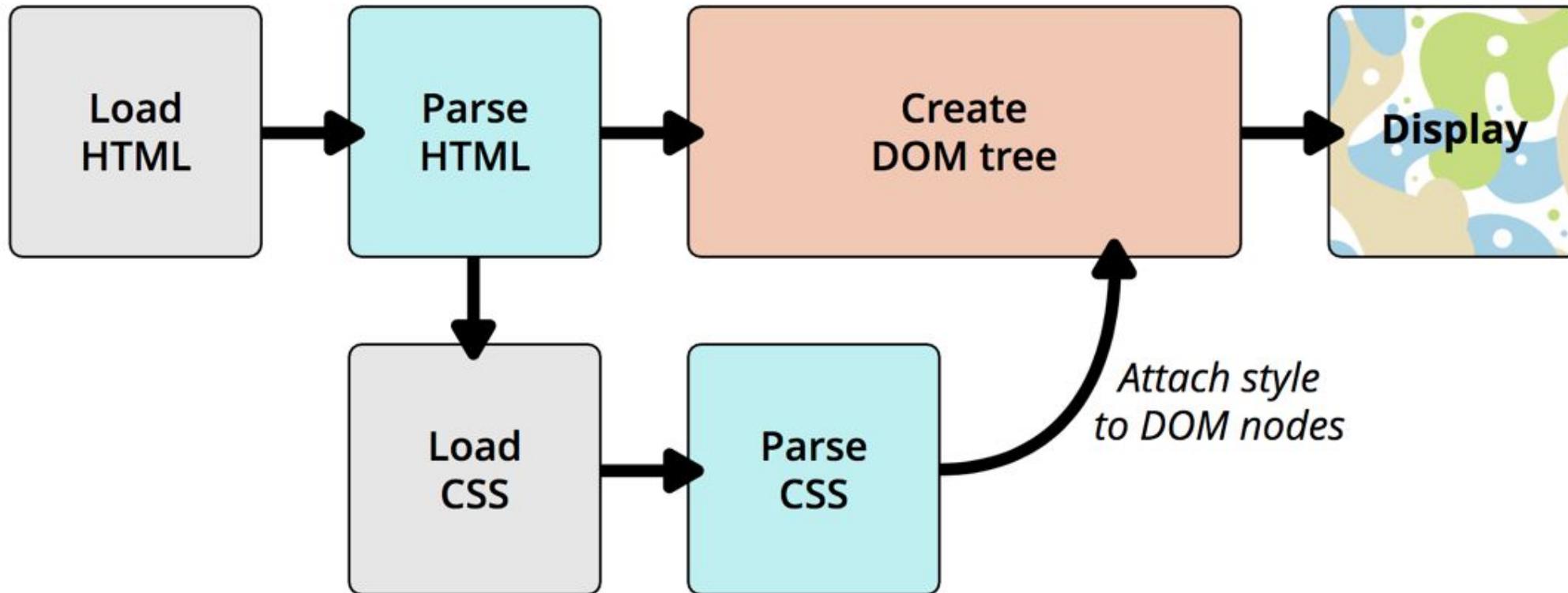
Hello World!

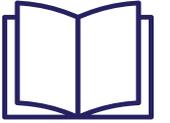
This is my first CSS example

- First list item
- Second List item



How does CSS work?





How to apply your CSS to your HTML

Method 1: External stylesheet

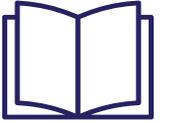
index.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width">
    <title>My CSS experiment</title>
    <link href="style.css" rel="stylesheet" type="text/css" />
  </head>
  <body>
    <h1>Hello World!</h1>
    <p>This is my first CSS example</p>
    <ul>
      <li>First list item</li>
      <li>Second List item</li>
    </ul>
  </body>
</html>
```

style.css

```
h1 {
  color: blue;
  background-color: yellow;
  border: 1px solid black;
}

p {
  color: red;
}
```



How to apply your CSS to your HTML

Method 2: Internal (embedded) styles

index.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width">
    <title>My CSS experiment</title>
    <style>
      h1 {
        color: blue;
        background-color: yellow;
        border: 1px solid black;
      }

      p {
        color: red;
      }
    </style>
  </head>
  <body>
    <h1>Hello World!</h1>
    <p>This is my first CSS example</p>
    <ul>
      <li>First list item</li>
      <li>Second List item</li>
    </ul>
  </body>
</html>
```

style.css

```
h1 {
  color: blue;
  background-color: yellow;
  border: 1px solid black;
}

p {
  color: red;
}
```

Exercise 1

Change the code so that the list items appear in green (as shown)

Hello World!

This is my first CSS example

- First list item
- Second List item

 Fork

Hello World!

This is my first CSS example

- First list item
- Second List item

CSS Syntax

- Style sheets are composed of style rules that describe the styling to be applied.
- The rules tell the browser how to display the content of specified elements.
- Each rule has two parts: a selector and a declaration(s).
- Each declaration has two parts: a property and a value.

```
selector {  
    property-1: value for property-1;  
    property-2: value for property-2;  
    ...  
    property-N: value for property-N;  
}
```

CSS Syntax (examples)

- Style sheets are composed of style rules that describe the styling to be applied.
- The rules tell the browser how to display the content of specified elements.
- Each rule has two parts: a selector and a declaration(s).
- Each declaration has two parts: a property and a value.

Rule 1

```
SELECTOR  
└──  
  p {  
    font-family: Arial;  
  }  
  └──  
    DECLARATION
```

Rule 2

```
h1, h2, h3 {  
  font-family: Arial;  
  color: yellow;  
}  
  └──  
    PROPERTY  
  └──  
    VALUE
```

CSS Syntax (questions)

1. Identify the selector in each of the two rules shown below.
2. How many declarations does each rule have?
3. What are the properties and their associated values?
4. What does each rule do?

Rule 1

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

Rule 2

```
h1 {  
  color: blue;  
  background-color: yellow;  
  border: 1px solid black;  
}
```

CSS Syntax - recap

The first thing you do is select the element you want to style, in this case the <p> element. Notice in CSS, you don't put <> around the name.

↓
p {
}
↑

Place all the styles for the <p> element in between { } braces.

Then you specify the property you want to style, in this case the <p> element's background color.

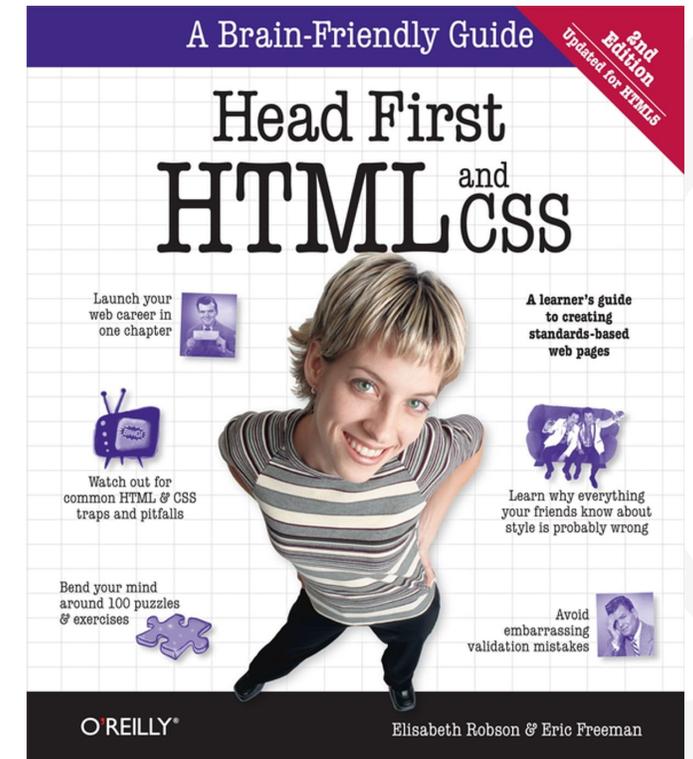
background-color: red;

And you're going to set the background-color to red.

At the end, put a semicolon.

There's a colon in between the property and its value.

↑
We call the whole thing a RULE.



CSS Syntax - common properties

Typography

font-size

font-weight

font-family

Colours

color

background-color

Positioning

position

width, height

line-height

text-align

margin

padding

border



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CSS Syntax - selectors



CSS Selectors Video - <https://youtu.be/viJJoo8uJuY>



CSS Syntax - selectors

TYPE SELECTOR

Matches element names

`h1, h2, h3 {}`
Targets the `<h1>`, `<h2>` and `<h3>` elements

CLASS SELECTOR

Matches an element whose `class` attribute has a value that matches the one specified after the period (or full stop) symbol

`.note {}`
Targets any element whose `class` attribute has a value of `note`
`p.note {}`
Targets only `<p>` elements whose `class` attribute has a value of `note`

ID SELECTOR

Matches an element whose `id` attribute has a value that matches the one specified after the pound or hash symbol

`#introduction {}`
Targets the element whose `id` attribute has a value of `introduction`

CSS Type Selectors

TYPE SELECTOR

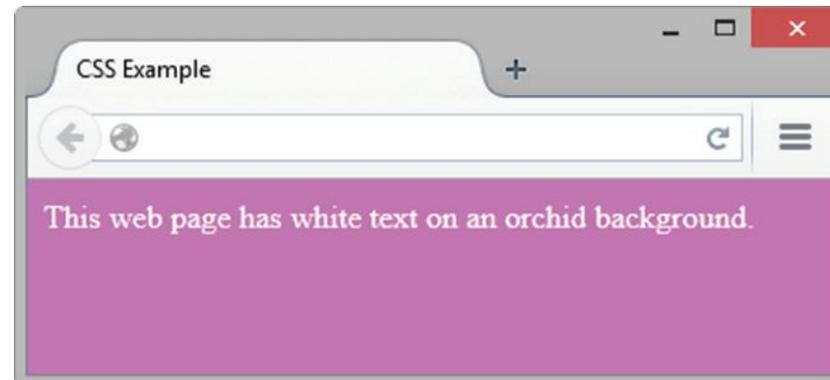
Matches element names

`h1, h2, h3 {}`

Targets the `<h1>`, `<h2>` and `<h3>` elements

```
p {  
  text-align: center;  
  color: red;  
}
```

```
body {  
  color: white;  
  background-color: orchid;  
}
```



CSS Class selectors

CLASS SELECTOR

Matches an element whose class attribute has a value that matches the one specified after the period (or full stop) symbol

`.note {}`
Targets any element whose class attribute has a value of note

`p.note {}`
Targets only <p> elements whose class attribute has a value of note

CSS

```
.bold {
  font-weight: bold;
}

.italics {
  font-style: italic;
}

.strikethrough {
  text-decoration: line-through;
}
```

HTML

```
<ul>
  <li class="bold">This item is in bold</li>
  <li class="italics">This is in italics</li>
  <li class="strikethrough">A line through this item</li>
</ul>
```

CSS ID Selectors

ID SELECTOR

Matches an element whose id attribute has a value that matches the one specified after the pound or hash symbol

`#introduction {}`

Targets the element whose id attribute has a value of introduction

CSS

```
#polite {
  font-family: cursive;
}

#rude {
  font-family: monospace;
  text-transform: uppercase;
}
```

HTML

```
<p id="polite"> – "Good morning."</p>
<p id="rude"> – "Go away!"</p>
```

CSS Selectors Exercises



https://www.w3schools.com/css/exercise.asp?filename=exercise_selectors1

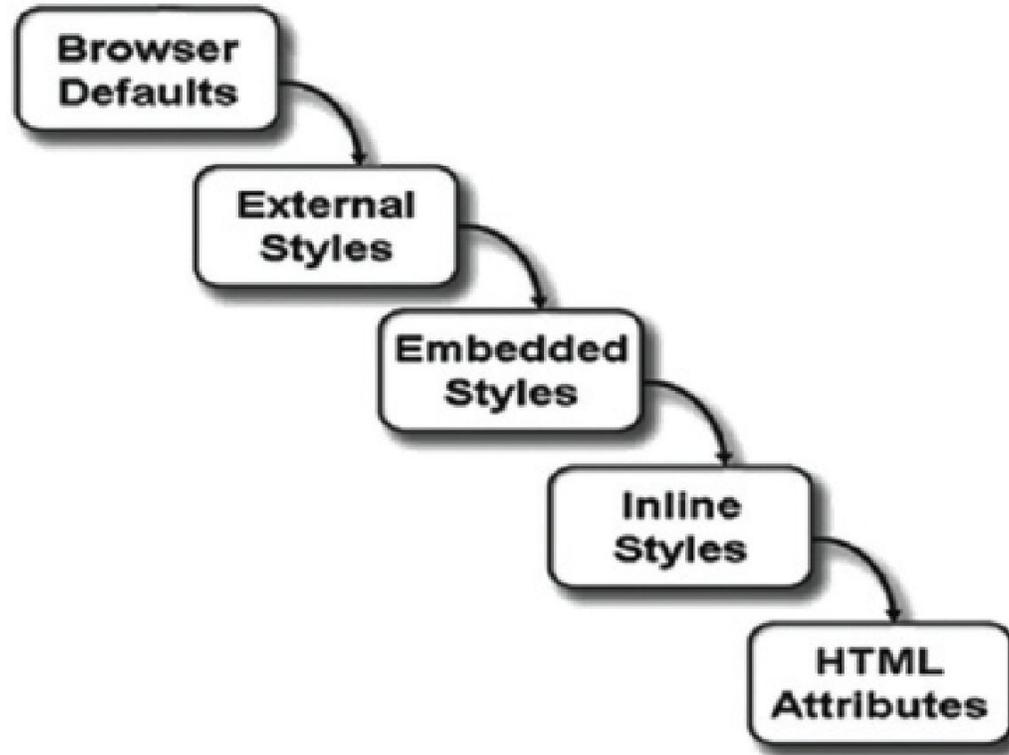
CSS Selectors Demonstration / Code along activity



1. Fork the PRE-CODE provided
2. Browse `style.css`
3. Code along with presenter
(uncomment each block one-by-one)
4. Evaluate. Test and explain each change

CSS Cascade, Colour, Units, Font and Layout

The Cascade



Colours



Red: #FF0000



Green: #00FF00



Blue: #0000FF



Black: #000000



White: #FFFFFF



Grey: #CCCCCC

#FFFFFF	#FFFFCC	#FFFF99	#FFFF66	#FFFF33	#FFFF00
#FFCCFF	#FFCCCC	#FFCC99	#FFCC66	#FFCC33	#FFCC00
#FF99FF	#FF99CC	#FF9999	#FF9966	#FF9933	#FF9900
#FF66FF	#FF66CC	#FF6699	#FF6666	#FF6633	#FF6600
#FF33FF	#FF33CC	#FF3399	#FF3366	#FF3333	#FF3300
#FF00FF	#FF00CC	#FF0099	#FF0066	#FF0033	#FF0000

CSS syntax allows you to configure colours in a variety of ways:

- colour name
- hexadecimal colour value
- hexadecimal shorthand colour value
- decimal colour value (RGB triplet)
- HSL (Hue, Saturation, and Lightness) colour value notation new to CSS3;

see <http://www.w3.org/TR/css3-color/#hsl-color>

CSS Syntax	Color Type
<code>p { color: red; }</code>	Color name
<code>p { color: #FF0000; }</code>	Hexadecimal color value
<code>p { color: #F00; }</code>	Shorthand hexadecimal (one character for each hexadecimal pair; used only with web-safe colors)
<code>p { color: rgb(255, 0, 0); }</code>	Decimal color value (RGB triplet)
<code>p { color: hsl(0, 100%, 50%); }</code>	HSL color values

Font Families

Font Family Category	Font Family Description	Font Typeface Examples
serif	Serif fonts have small embellishments on the end of letter strokes; often used for headings.	Times New Roman, Georgia, Palatino
sans-serif	Sans-serif fonts do not have serifs; often used for web page text.	Arial, Tahoma, Helvetica, Verdana
monospace	Fixed-width font; often used for code samples.	Courier New, Lucida Console
cursive	Hand-written style; use with caution; may be difficult to read on a web page.	<i>Lucida Handwriting, Brush Script, Comic Sans MS</i>
fantasy	Exaggerated style; use with caution; sometimes used for headings; may be difficult to read on a web page.	Jokerman, Impact , Papyrus



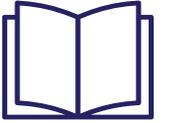
CSS Absolute Units

Absolute length units are not recommended for use on screen, because screen sizes vary so much. However, they can be used if the output medium is known, such as for print layout.

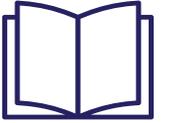
Unit	Description
cm	centimetres
mm	millimetres
in	inches (1in = 96px = 2.54cm)
px *	pixels (1px = 1/96th of 1in)

CSS Relative Units

Unit	Description
em	Relative to the font-size of the element (2em means 2 times the size of the current font)
ex	Relative to the x-height of the current font (rarely used)
ch	Relative to width of the "0" (zero)
rem	Relative to font-size of the root element
vw	Relative to 1% of the width of the viewport*
vh	Relative to 1% of the height of the viewport*
vmin	Relative to 1% of viewport's* smaller dimension
vmax	Relative to 1% of viewport's* larger dimension
%	Relative to the parent element



The Box Model



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border-style

default

none

inset

outset

double

groove

ridge

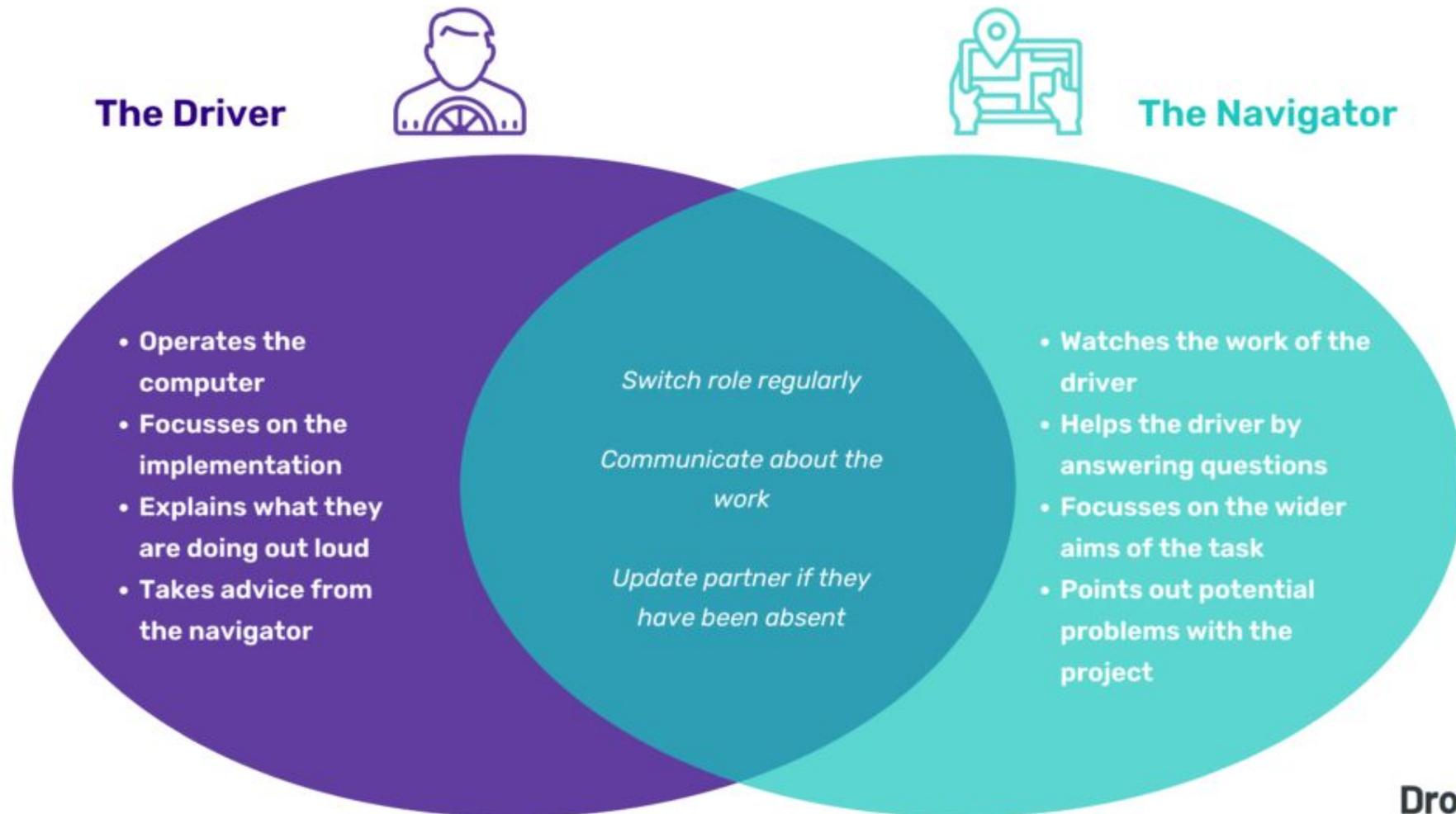
solid

dashed

dotted

Part 2 - CSS Tutorial

Pair Programming



Tutorial

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<https://drive.google.com/file/d/1z-p0VvFYrv-N026LQ9V7I9rj3NsaWx77/view?usp=sharing>



Responsive Design

Responsive Design

Designing For The Best Experience For All Users

Web pages can be viewed using many different devices: desktops, tablets, and phones. Your web page should look good, and be easy to use, regardless of the device.

Web pages should not leave out information to fit smaller devices, but rather adapt its content to fit any device:



Desktop



Tablet



Phone



An Roinn Oideachais
Department of Education



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