

LEARNING GARDEN MAKER WORKSHOP: INTRODUCTION TO HTML/CSS/Javascript AND GITHUB

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Today's agenda.

1. How does web publishing work?
2. Produce a web page with code editor such as **Visual Studio Code**.
3. Free hosting of static website on **Github**.
4. Mark up your web page structure in **HTML**.
5. Style your web page in **CSS**.
6. Responsive composition of layout through **float, flexbox, grid, and the Bootstrap library**.

How does web publishing work?

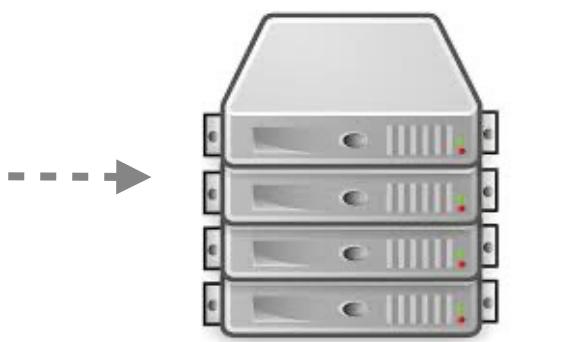
Browser

Screen Display



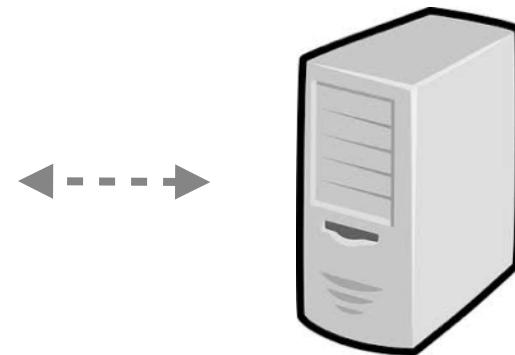
Web Server

HTML/CSS/JS



Database Server

Data



```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<title> A Tiny HTML Document </title>
<link href = "styles.css" rel="stylesheet">
<script src="scripts.js"></script>
</head>

<body>
<p>Let's rock the browser, HTML5 style.</p>
</body>
</html>
```

ID	PHONE	POPULARNAME	PREFERREDNAME	LATITUDE	LONGITUDE
1194520	00994614	popular_name_00994614	preferred_name_00994614	23.789875	88.897985
1194521	00994616	popular_name_00994616	preferred_name_00994616	23.789875	88.897985
1194522	00994618	popular_name_00994618	preferred_name_00994618	23.789875	88.897985
1194523	00994617	popular_name_00994617	preferred_name_00994617	23.789875	88.897985
1194524	00994619	popular_name_00994619	preferred_name_00994619	23.789875	88.897985
1194525	00994619	popular_name_00994619	preferred_name_00994619	23.789875	88.897985
1194526	00994620	popular_name_00994620	preferred_name_00994620	23.789875	88.897985
1194527	00994621	popular_name_00994621	preferred_name_00994621	23.789875	88.897985
1194528	00994622	popular_name_00994622	preferred_name_00994622	23.789875	88.897985
1194529	00994623	popular_name_00994623	preferred_name_00994623	23.789875	88.897985
1194530	00994624	popular_name_00994624	preferred_name_00994624	23.789875	88.897985
1194531	00994625	popular_name_00994625	preferred_name_00994625	23.789875	88.897985

Static Website vs. Dynamic Website

Browser

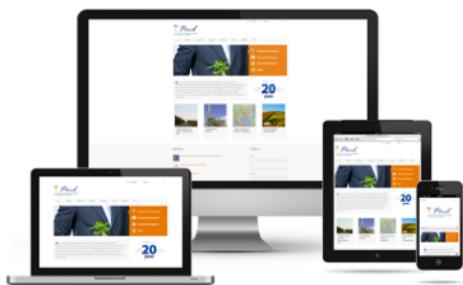
Screen Display



Web Server

HTML/CSS/JS

Static Website



```
1 <!DOCTYPE html>
2 <html lang="en">
3   <head>
4     <meta charset="utf-8">
5     <title> A Tiny HTML Document </title>
6     <link href = "styles.css" rel="stylesheet">
7     <script src="scripts.js"></script>
8   </head>
9
10  <body>
11    <p>Let's rock the browser, HTML5 style.</p>
12  </body>
13  </html>
```

Browser

Screen Display



Web Server

HTML/CSS/JS

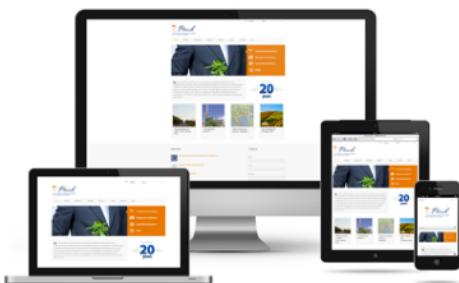


Database Server

Data



Dynamic Website



```
1 <!DOCTYPE html>
2 <html lang="en">
3   <head>
4     <meta charset="utf-8">
5     <title> A Tiny HTML Document </title>
6     <link href = "styles.css" rel="stylesheet">
7     <script src="scripts.js"></script>
8   </head>
9
10  <body>
11    <p>Let's rock the browser, HTML5 style.</p>
12  </body>
13  </html>
```

ID	PHONE	POPULARNAME	PREFERREDNAME	LATITUDE	LONGITUDE
1194820	00994614	popular_name_00994614	preferred_name_00994614	23.789875	88.897985
1194821	00994615	popular_name_00994615	preferred_name_00994615	23.789875	88.897985
1194822	00994616	popular_name_00994616	preferred_name_00994616	23.789875	88.897985
1194823	00994617	popular_name_00994617	preferred_name_00994617	23.789875	88.897985
1194824	00994618	popular_name_00994618	preferred_name_00994618	23.789875	88.897985
1194825	00994619	popular_name_00994619	preferred_name_00994619	23.789875	88.897985
1194826	00994620	popular_name_00994620	preferred_name_00994620	23.789875	88.897985
1194827	00994621	popular_name_00994621	preferred_name_00994621	23.789875	88.897985
1194828	00994622	popular_name_00994622	preferred_name_00994622	23.789875	88.897985
1194829	00994623	popular_name_00994623	preferred_name_00994623	23.789875	88.897985
1194830	00994624	popular_name_00994624	preferred_name_00994624	23.789875	88.897985
1194831	00994625	popular_name_00994625	preferred_name_00994625	23.789875	88.897985

Demo

**Browser (e.g. Chrome) translates HTML/
CSS/JS into web pages ordinary human
can understand.**

**We need a `code editor` to create
HTML/CSS/JS files.**

Version 1.47 is now available! Read about the new features and fixes from June.

Code editing. Redefined.

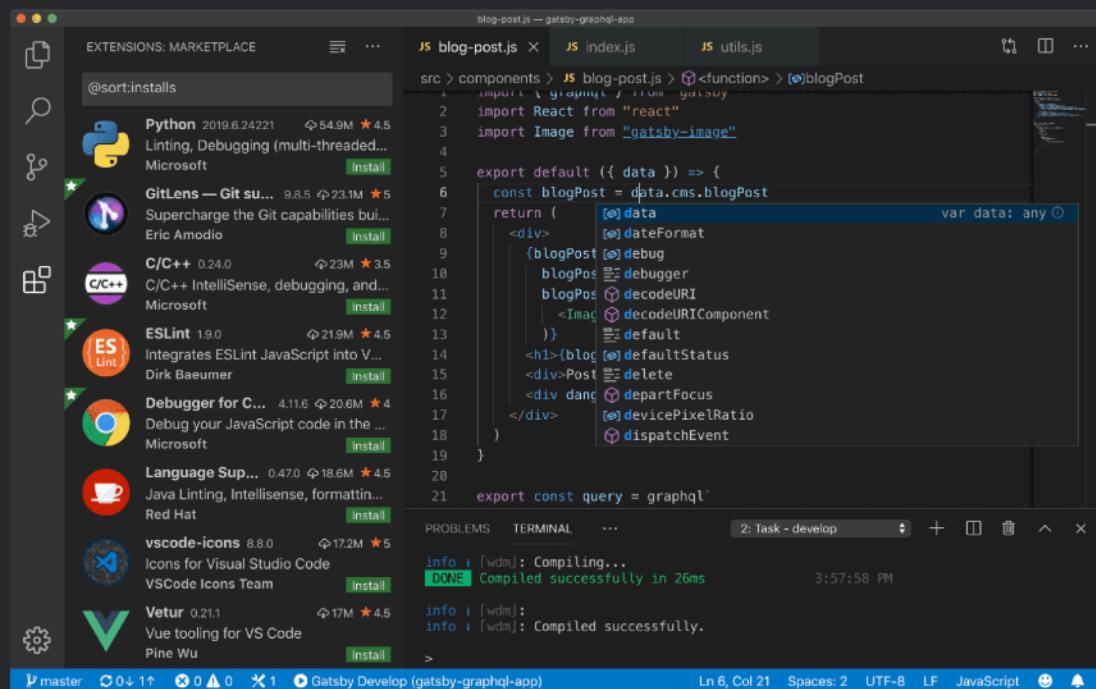
Free. Built on open source. Runs everywhere.

[Download for Mac](#)

Stable Build

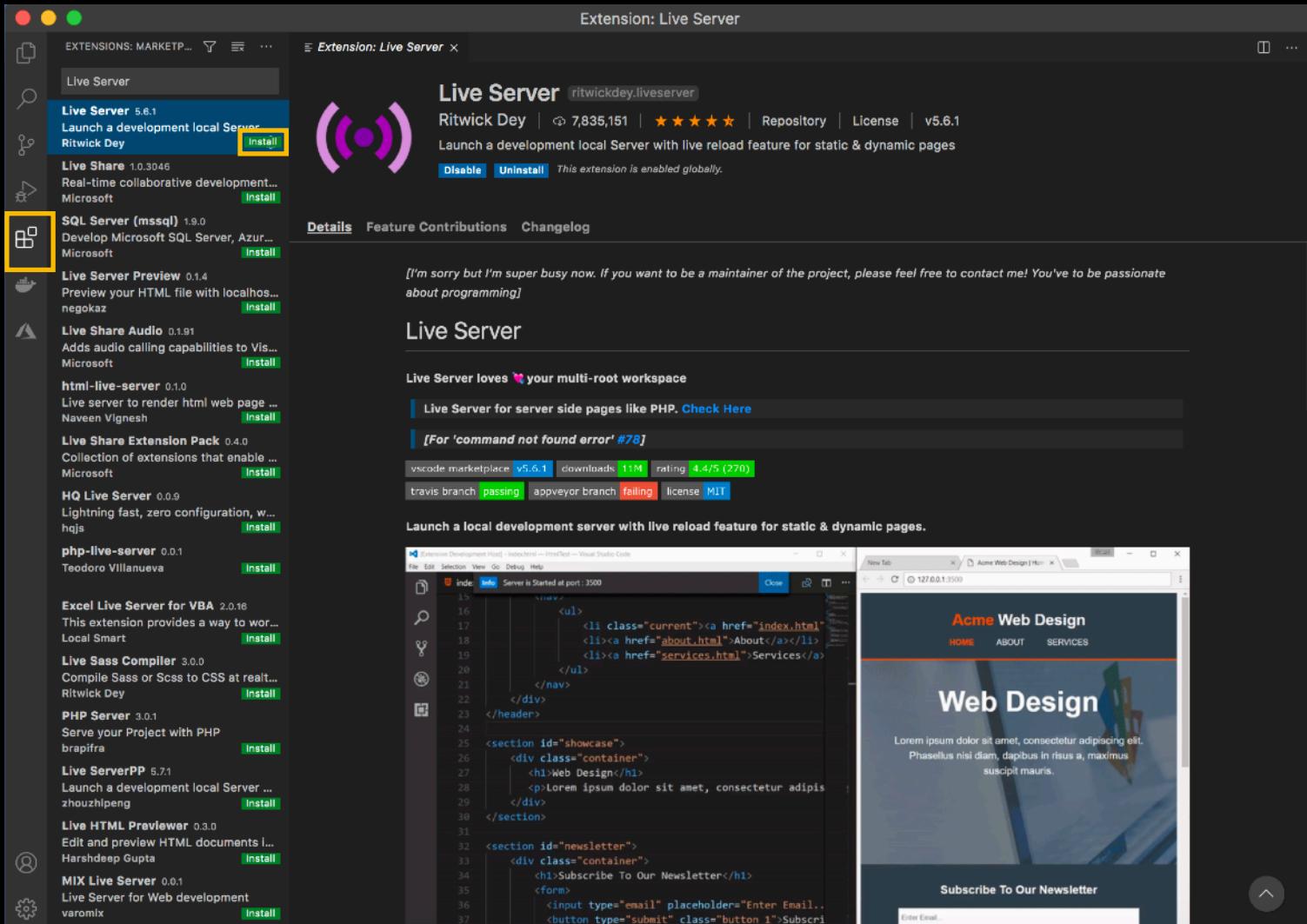
[Other platforms and Insiders Edition](#)

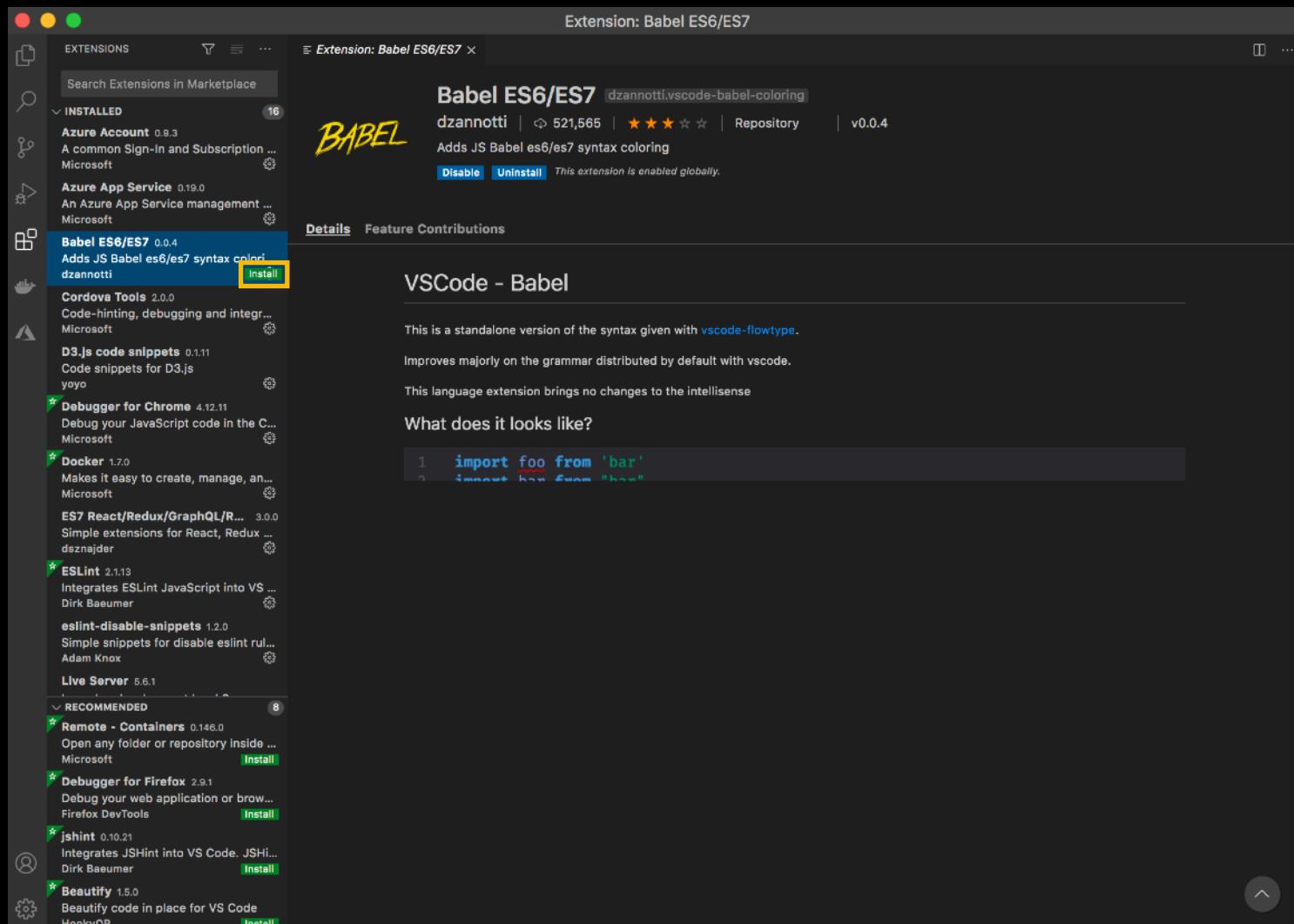
By using VS Code, you agree to its
[license](#) and [privacy statement](#).



<https://code.visualstudio.com/>

Adding plugins.





Free hosting of static website on Github.

1. Sign-up for a **Github** account (the free account)
2. Install **Github Desktop** and create a new repository
(You can treat the repository as a folder) by
creating a new folder associated with it.



Built for developers

GitHub is a development platform inspired by the way you work. From **open source to business**, you can host and review code, manage projects, and build software alongside 50 million developers.

<https://github.com>

Username

my_account_name

Email

bernard@cuhk.edu.hk

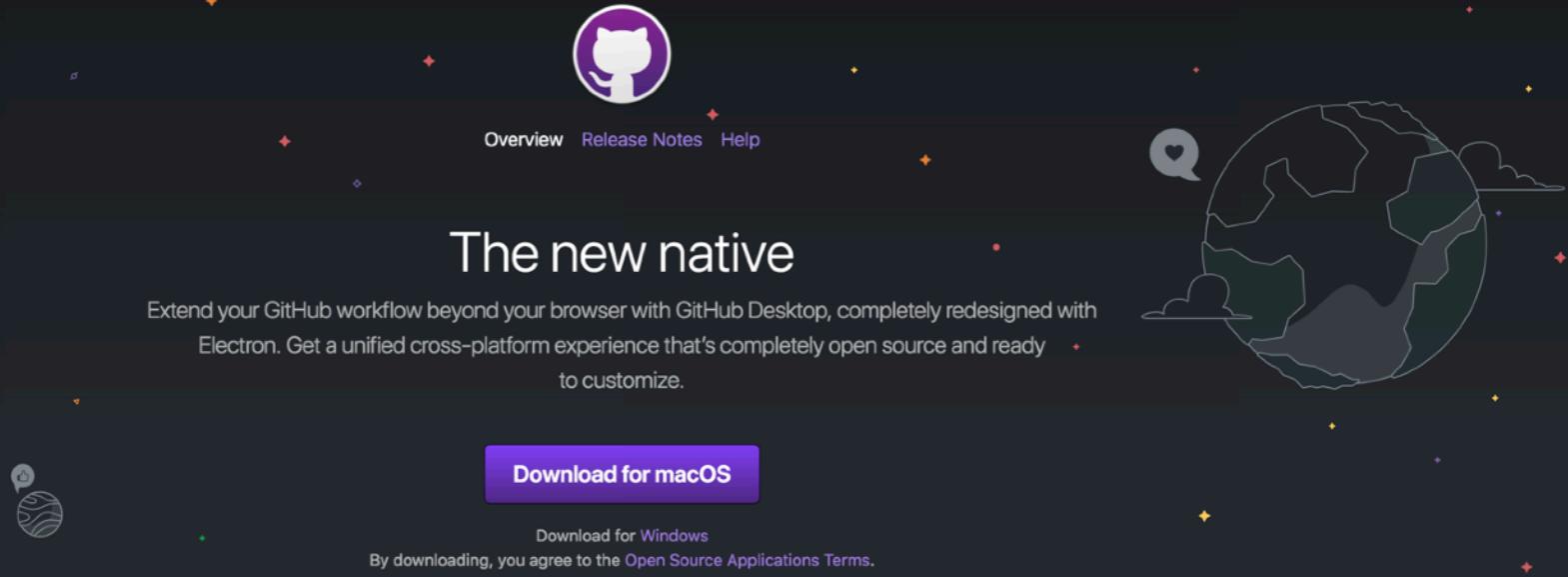
Password

Make sure it's at least 15 characters OR at least 8 characters including a number and a lowercase letter. [Learn more](#).

Sign up for GitHub

By clicking "Sign up for GitHub", you agree to our [Terms of Service](#) and [Privacy Statement](#). We'll occasionally send you account related emails.





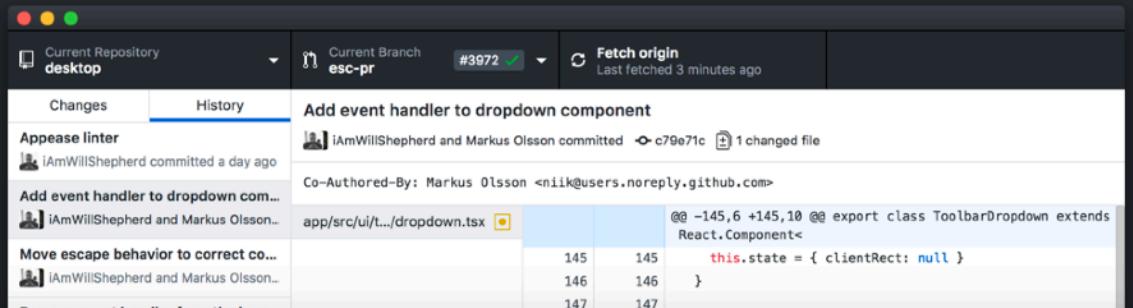
The new native

Extend your GitHub workflow beyond your browser with GitHub Desktop, completely redesigned with Electron. Get a unified cross-platform experience that's completely open source and ready to customize.

Download for macOS

Download for Windows

By downloading, you agree to the [Open Source Applications Terms](#).



A screenshot of the GitHub Desktop application window. The top bar shows the current repository as "desktop", the current branch as "esc-pr", and the fetch origin status. The main pane displays a list of pull requests. The first pull request is titled "Add event handler to dropdown component" and was committed by "iAmWillShepherd and Markus Olsson" on "a day ago". The commit message includes "Co-Authored-By: Markus Olsson <niik@users.noreply.github.com>". The code diff shows changes in "app/src/ui/t.../dropdown.tsx" with lines 145, 146, and 147 highlighted. The code snippet is:

```
@@ -145,6 +145,10 @@ export class ToolbarDropdown extends React.Component<
    this.state = { clientRect: null }
  }
}
```

<https://desktop.github.com/>



Search or jump to...

[Pull requests](#) [Issues](#) [Marketplace](#) [Explore](#)

[Bell](#) [+](#) [Profile](#)



suentze2020

[Edit profile](#)

Joined 18 days ago

Overview **Repositories 1** Projects Packages

Find a repository...

Type ▾

Language ▾

Sort ▾

New

pre-class-workshop

HTML Updated 10 days ago

Star

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What does HTML stand for?

(H)yper (T)ext (M)arkup (L)anguage

(M)arkup is a collection of “tags”.

NOUN

HTML

<html>, <head>, <title>, <meta>, <style>, <script>, <body>, <header>, <footer>, <nav>, <main>, <section>, <aside>, <p>,
, <a>, , , , <table>, <div>, <form>

Elements
has
properties

(e.g. color, background-color, position, font-family, font-size, font-style, display, width, margin, border, padding)

```
<html>
```

```
  <head>
```

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

```
  </head>
```

```
<body>
```

```
  <h1>This is a heading </h1>
```

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

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

```
</body>
```

```
</html>
```

First hands-on exercise:

<https://www.wikihow.com/Create-a-Simple-Web-Page-with-HTML> (Part 1 to Part 5)

Basic Structure: Head, Body, and Elements

**Part
1**

Adding a Head to Your HTML

```
<!DOCTYPE html>
<html>
<head>
<title>wikihow</title>
</head>
```

Part
2

Adding a Body and Text to Your HTML

```
<!DOCTYPE html>
<html>
<head>
<title>wikihow</title>
</head>
<body>
<h1>How to create a webpage</h1>
<p> It's easy and fun</p>
```

Part
3

Adding Additional Elements to Your HTML

```
<!DOCTYPE html>
<html>
<head>
<title>wikihow</title>
</head>
<body>
<h1>How to create a webpage</h1>
<p> It's easy and fun</p>

```

Part
3

Adding Additional Elements to Your HTML

```
<!DOCTYPE html>
<html>
<head>
<title>wikihow</title>
</head>
<body>
<h1>How to create a webpage</h1>
<p> It's easy and fun</p>

<a href="https://www.facebook.com">Facebook</a>
<br>
```

Part
4

Customizing Colors

```
<!DOCTYPE html>
<html>
<head>
<title>wikihow</title>
</head>
<body style="background-color:lavender;">
<h1>How to create a webpage</h1>
<p> It's easy and fun</p>

<a href="https://www.facebook.com">Facebook</a>
<br>
```

Part
5

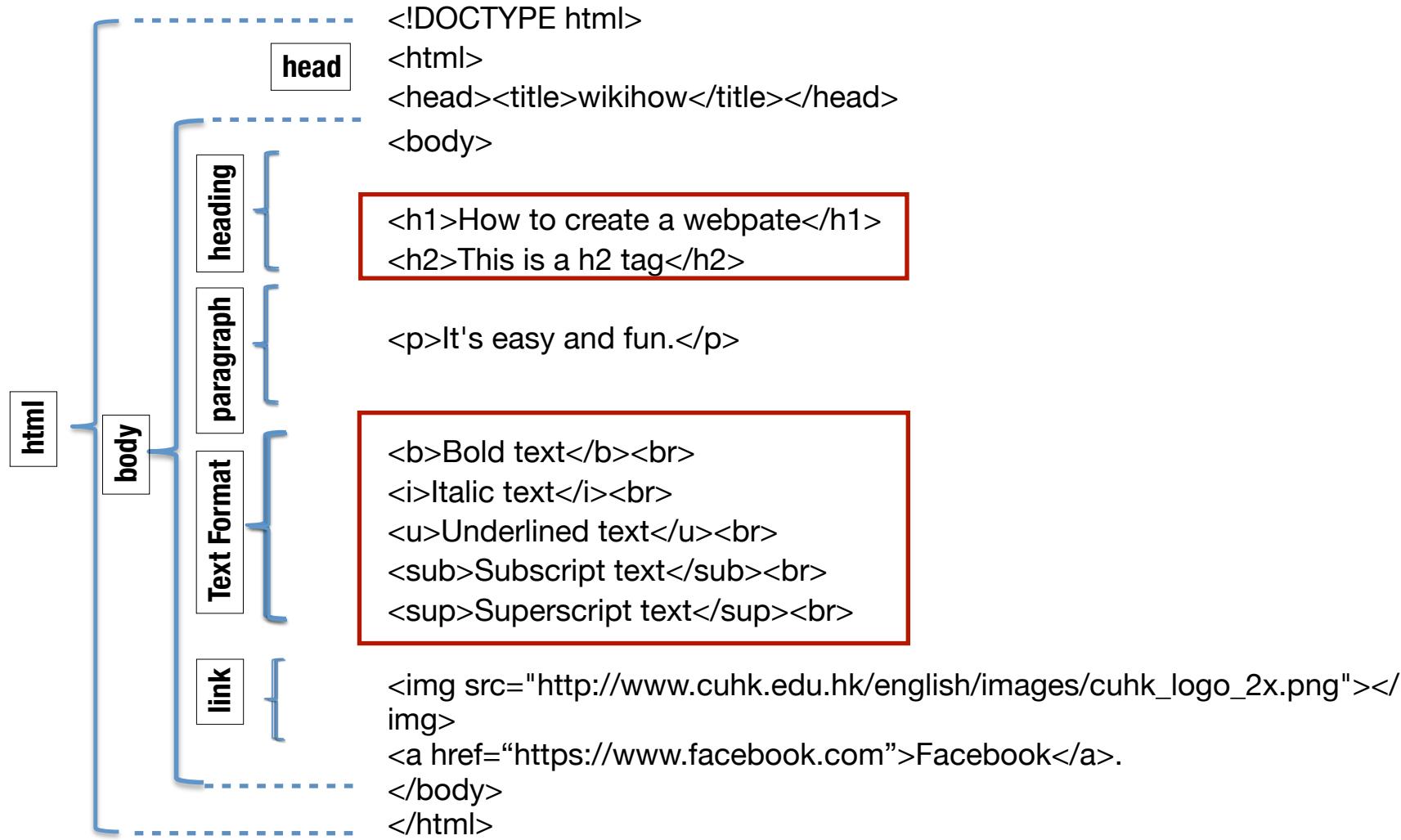
Closing Your HTML Document

```
<!DOCTYPE html>
<html>
<head>
<title>wikihow</title>
</head>
<body style="background-color:lavender;">
<h1>How to create a webpage</h1>
<p> It's easy and fun</p>

<a href="https://www.facebook.com">Facebook</a>
<br>
</body>
</html>
```

Congratulation. You created your first html page.
(example1.html). Now it's time to upload it to your
remote Github account space.

Basic Elements: Headings, Paragraphs, Links, and HTML Format Tags



Browser View

How to create a webpate

This is a h2 tag

It's easy and fun.

Bold text

Italic text

Underlined text

Subscript text

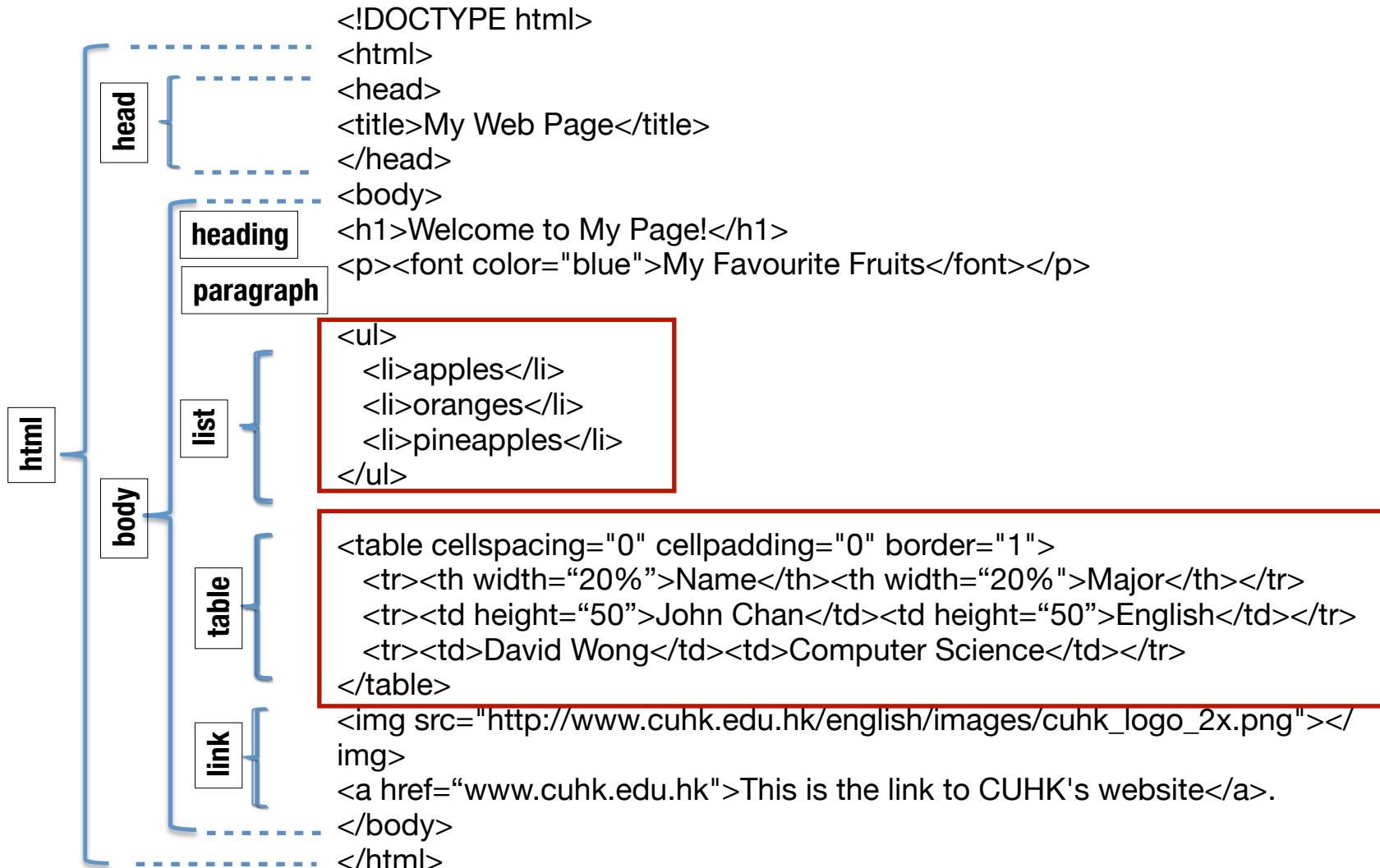
Superscript text



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[Facebook](#)

Lists and Tables



Browser View

Welcome to My Page!

My Favourite Fruits

- apples
- oranges
- pineapples

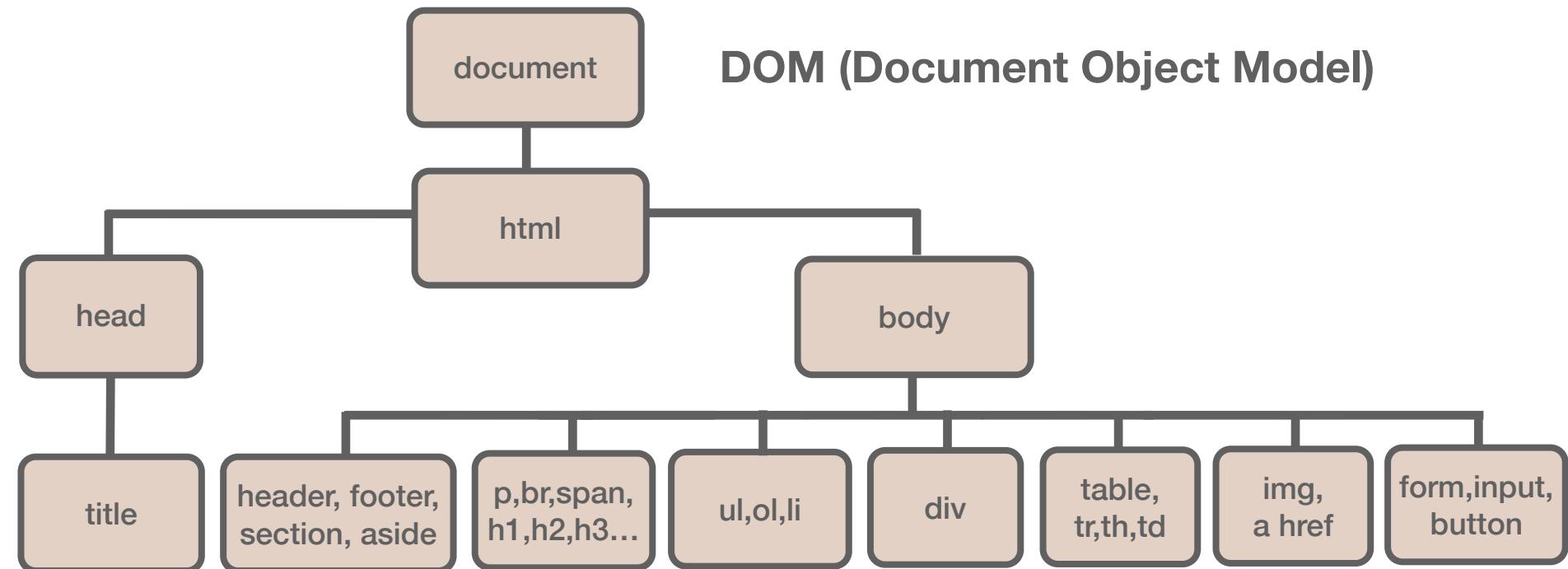
Name	Major
John Chan	English
David Wong	Computer Science



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[This is the link to CUHK's website.](#)

DOM (Document Object Model)



<https://www.runoob.com/htmldom/htmldom-tutorial.html>

Form

```
<form action="/register" method="post">
  <label for="fname"></label>
  <input type="text" name="fname" placeholder="First Name">
  <label for="lname"></label>
  <input type="text" name="lname" placeholder="Last Name">
  <label for="password"></label>
  <input type="password" name="password" placeholder="Password">
  <input type="submit" value="Submit">
</form>
```

HTML Colors

[Picker](#)[Convert](#) ▾[Chart](#)[Names](#) ▾[Library](#)[Tutorials](#)[Resources](#)[Font Generator](#)

HTML COLOR CODES



Get HTML color codes, Hex color codes, RGB and HSL values with our color picker, color chart and HTML color names. Let's go!

Ad removed. [Details](#)

The screenshot shows a color picker interface with the following details:

- Color preview area: A large gradient from dark purple to light cyan.
- Color selection tools: A circular slider at the top and a vertical color bar on the right.
- Color information: HEX **#CDF7F3**, RGB **205, 247, 243**, HSL **174, 17%, 89%**.
- Download button: A small download icon with a progress bar below it.
- Color palette: A horizontal bar with color swatches and percentage values.
- Helpful tips: Buttons for Picking, Saving, and Exporting.
- Code table: A table showing the color components:

#	CDF7F3
R	205
G	247
B	243
H	174

<https://htmlcolorcodes.com/>

Font Families

- **Serif** (Times New Roman, Garamond, Georgia, etc.)
- **Sans-serif** (Arial, Helvetica, Verdana, etc.)
- **Cursive** (Comic Sans MS, Adobe Poetica, etc.)
- **Fantasy** (Cottonwood, Critter, etc.)
- **Monospace** (Courier New, Monaco, etc.)

The **Grammar** of HTML Elements

- Start with `<>` tag (e.g. `<p>`).
- End with `</>` tag (e.g. `</p>`).
- Element content is everything between the start and end tags.
- Some elements have empty content and no end tag (e.g. `
`).
- Most elements have attributes.

Exercise



What does CSS stand for?

(C)ascading (S)tyle (S)heet

CSS Demonstration:

https://www.w3schools.com/css/css_intro.asp

CSS Demo - One HTML Page - Multiple Styles!

Here we will show one HTML page displayed with four different stylesheets. Click on the "Stylesheet 1", "Stylesheet 2", "Stylesheet 3", "Stylesheet 4" links below to see the different styles:

The screenshot shows a web page with the following structure:

- Header:** A green header bar containing the text "Welcome to My Homepage" in white, bold, sans-serif font, and "Use the menu to select different Stylesheets" in a smaller white font.
- Sidebar:** A vertical sidebar on the left side with a light gray background. It contains a list of links:
 - Stylesheet 1** (highlighted in green)
 - Stylesheet 2
 - Stylesheet 3
 - Stylesheet 4
 - No Stylesheet
- Main Content:** The main content area has a white background. It features large, bold, black text that reads "Same Page Different Stylesheets". Below this, there is a block of text explaining the purpose of the demo and providing links to other stylesheets.
- Text in Main Content Area:**

This is a demonstration of how different stylesheets can change the layout of your HTML page. You can change the layout of this page by selecting different stylesheets in the menu, or by selecting one of the following links:

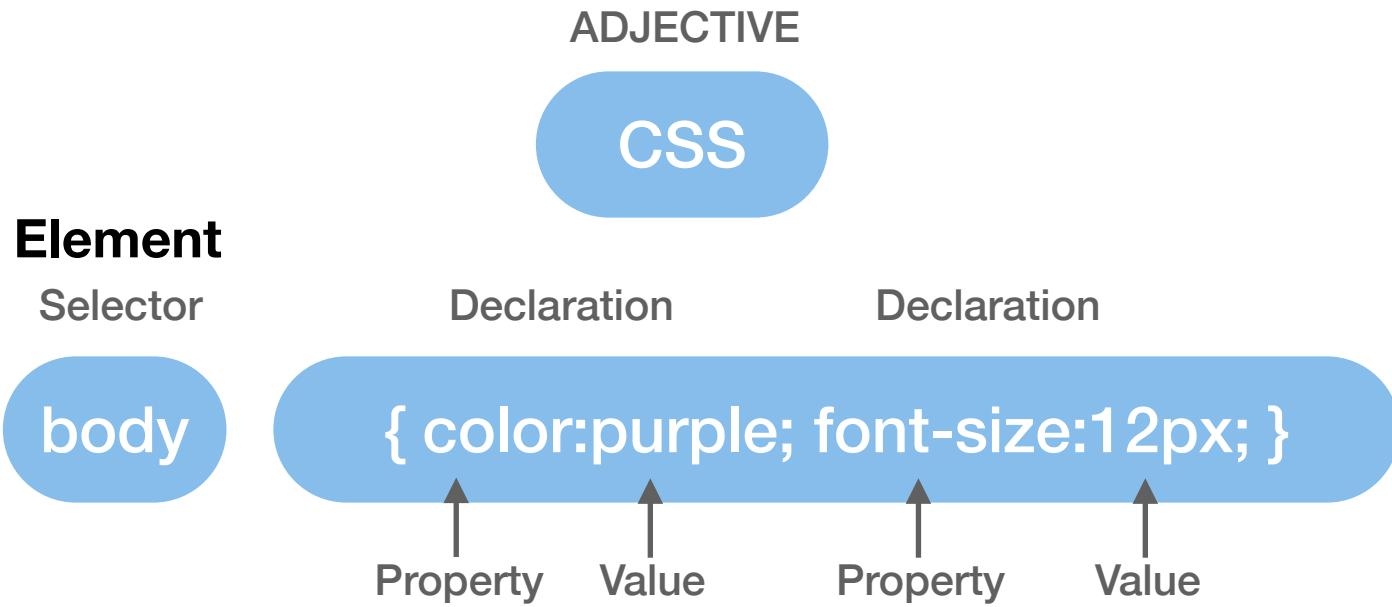
[Stylesheet1](#), [Stylesheet2](#), [Stylesheet3](#),

MOST IMPORTANT LESSON TO REMEMBER IN CSS:

To **style** a HTML element, you need to have a way to access it. In CSS, this is done through the **SELECTOR**.

There are two types of selector: **Element** and **Custom**. The **CUSTOM** selectors are further divided into **CLASS** and **ID**. CUSTOM selectors let you **define** the names for referencing them.

Once an element is selected, it can be styled by changing the **values** of its **properties**.



Custom (e.g. **class** or **id**)
Selector

ADJECTIVE

CSS

Declaration

Declaration

.box

#nav

{ color:blue; font-size:12px; }

class

id

Property

Value

Property

Value

**Inspecting CSS codes through the Chrome
inspector.**

Browser View Using Chrome Inspect

Welcome to My Page!

My name is Bob.

I hope you like it here.

This is my paragraph.

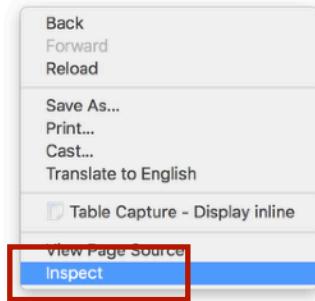
Whales are majestic creatures.



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[This is the link to CUHK's website.](#)

[Bold text](#) [Italic text](#) [Underlined text](#) [Subscript text](#) [Superscript text](#)



Use right mouse click to trigger pop-up window

Browser View Using Chrome Inspect

Welcome to My Page!

My name is Bob.

I hope you like it here.

This is my paragraph.

Whales are majestic creatures.



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[Bold text](#) [Italic text](#) [Underlined text](#) [Subscript text](#) [Superscript text](#)

[This is the link to CUHK's website.](#)

The screenshot shows the Chrome DevTools interface with the 'Elements' tab selected (highlighted with a red box). The left panel displays the DOM tree:

```
<!doctype html>
...<html> == $0
▶ <head>...
▶ <body>...
</html>
```

The right panel shows the 'Styles' tab of the element inspector for the `html` element, with the following CSS rule defined:

```
html {
    user agent stylesheet
    display: block;
}
```

A specific element in the page is selected, and its bounding box is highlighted with a dashed orange border. The 'Computed' tab of the inspector shows the following dimensions:

margin	-
border	-
padding	-
1679 x 351.500	
-	
-	

Browser View Using Chrome Inspect

Welcome to My Page!

My name is Bob.

I hope you like it here.

This is my paragraph.

[Whales are majestic creatures.](#)



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[Bold text](#) [Italic text](#) [Underlined text](#) [Subscript text](#) [Superscript text](#)

The screenshot shows the Chrome DevTools Elements tab with the DOM tree open. A red box highlights the CSS rule for the second heading element:

```
<h2 style="border-style: solid; border-width: 1px;">My name is Bob.</h2> == $0
```

The right panel shows the Styles tab with the following CSS rule highlighted by a red box:

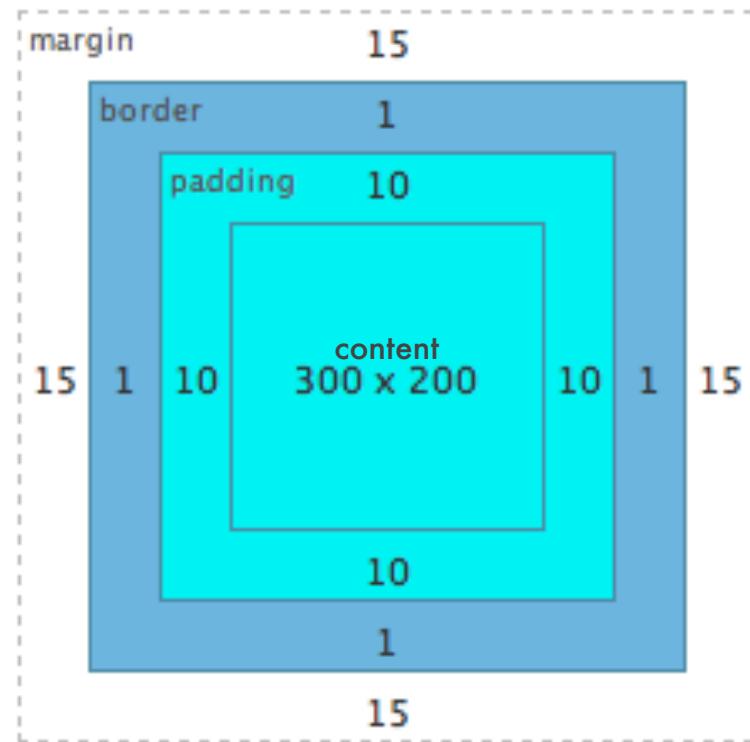
```
element.style {  
    border-style: solid;  
    border-width: 1px;  
}
```

The computed styles for the h2 element are also listed:

```
nz t user agent stylesheet  
display: block;  
font-size: 1.5em;  
-webkit-margin-before: 0.83em;  
-webkit-margin-after: 0.83em;  
-webkit-margin-start: 0px;  
-webkit-margin-end: 0px;  
font-weight: bold;
```

Understanding the Box Model

The Box Model



Targeting HTML Elements for Styling Through Selectors

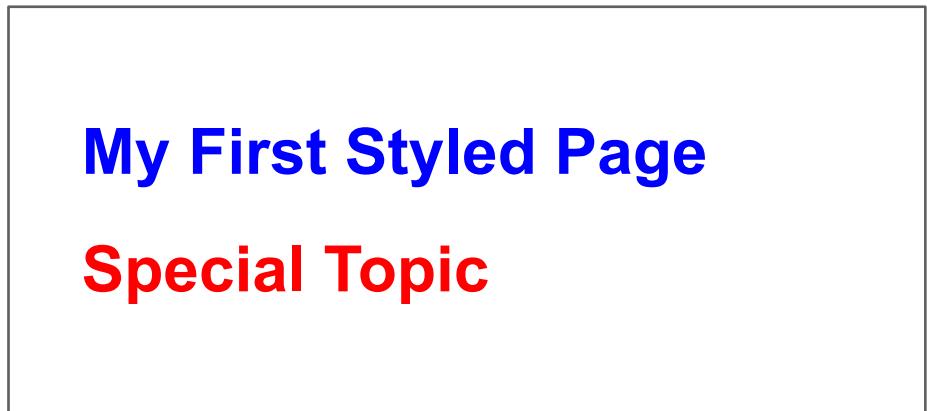
1. **Combination of Selectors for Choosing Styling Target.**
 - 1.1 **Multiple** selectors for choosing target.
 - 1.2 **Parent-child** selector hierarchy for choosing target.
 - 1.3 **Same styles** for different targets.
2. **Apply Multiple Classes to Target**

1.1 Multiple selectors combined to choose element to be styled (**no space in between**).

```
h1.first_page {  
    color: blue;  
}
```

```
h1.first_page#special {  
    color: red;  
}
```

```
.....  
<h1 class="first_page">My First Styled Page</h1>  
.....  
<h1 class="first_page" id="special">Special Topic</h1>
```



1.2 Parent-child selector hierarchy for choosing target (space between).

```
.rundown .morning h1 {  
    color: gold;  
}  
.....  
<div class="rundown">  
    <div class="morning">  
        <h1>Morning</h1>  
        1. 9:30-10:30am Introduction<br>  
        2. 10:30-11:30am HTML Elements<br>  
        3. 11:30-12:30pm The DOM<br>  
    </div>  
</div>
```

Day 1

1. 9:30-10:30am Introduction
2. 10:30-11:30am HTML Elements
3. 11:30-12:30pm The DOM

1.3 Same styles for different targets (**separated with comma**)

```
.levels, .values {  
    font-size:20px;  
    color:olive;  
}
```

Difficulty Level of CSS

1. High
2. Medium
3. Low

Values of Learning CSS

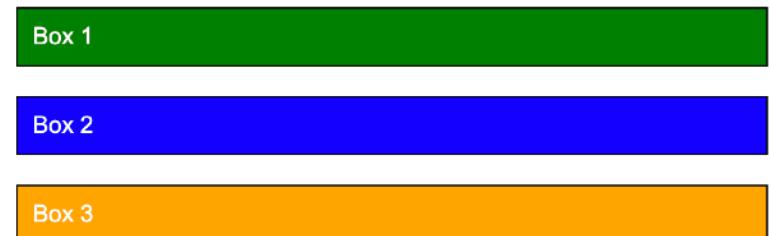
- Make web publishing fun.
- Create appealing content.
- Support easy reading.

```
<h1>Difficulty Level of CSS</h1>  
<ol class="levels">  
    <li>High</li>  
    <li>Medium</li>  
    <li>Low</li>  
</ol>  
<h1>Values of Learning CSS</h1>  
<ul class="values">  
    <li>Make web publishing fun.</li>  
    <li>Create appealing content.</li>  
    <li>Support easy reading.</li>  
</ul>
```

2. Apply Multiple Classes to Target

```
.box {  
    padding: 10px;  
    border-style: solid;  
    border-width: 1px;  
    border-color: black;  
    width: 30%;  
    margin: 20px 0px 2px 0px;  
}  
  
.box-1 {  
    background-color: green;  
    color: white;  
}  
  
.box-2 {  
    background-color: blue;  
    color: white;  
}  
  
.box-3 {  
    background-color: orange;  
    color: white;  
}
```

```
<div class='box box-1'>  
    Box 1  
</div>  
<div class='box box-2'>  
    Box 2  
</div>  
<div class='box box-3'>  
    Box 3  
</div>
```



Hands-on exercise:

<https://www.w3.org/Style/Examples/011/firstcss.en.html>

STEP I: WRITING THE HTML

For this tutorial, I suggest you use only the very simplest of tools. E.g., Notepad (under Windows),TextEdit (on the Mac) or KEdit (under KDE) will do fine. Once you understand the principles, you may want to switch to more advanced tools, or even to commercial programs, such as Style Master, Dreamweaver or GoLive. But for your very first CSS style sheet, it is good not to be distracted by too many advanced features.

Don't use a wordprocessor, such as Microsoft Word or OpenOffice. They typically make files that a Web browser cannot read. For HTML and CSS, we want simple, plain text files.

Step I is to open your text editor (Notepad,TextEdit, KEdit, or whatever is your favorite), start with an empty window and type the following:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html>
<head>
  <title>My first styled page</title>
</head>
```

Local links

[1.The HTML](#)

[2.Adding color](#)

[3.Adding fonts](#)

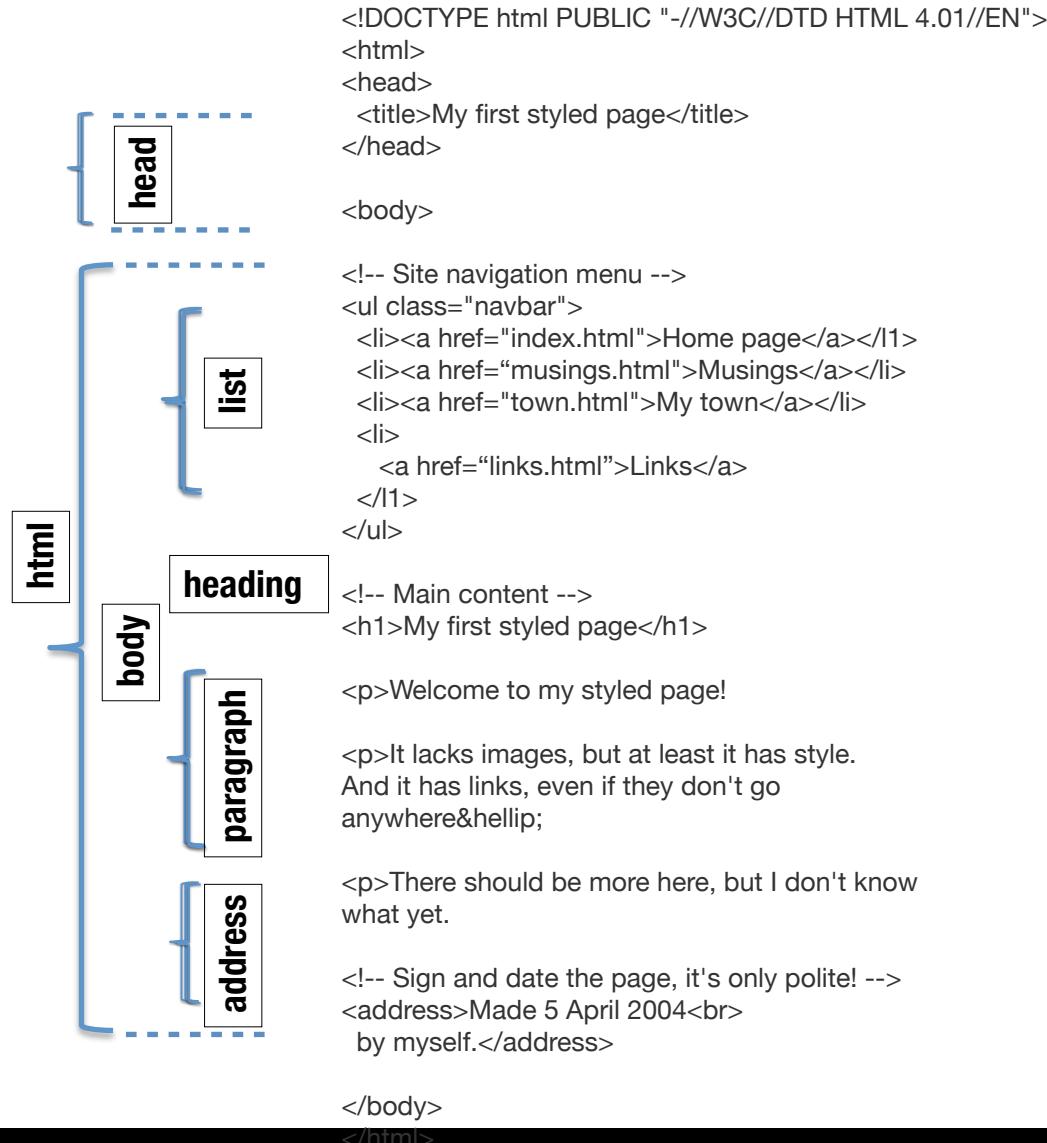
[4.A navigation bar](#)

[5. Styling links](#)

[6. Horizontal line](#)

[7. External CSS](#)

[Further reading](#)



```
<body>
<!-- Site navigation menu -->
<ul class="navbar">
    <li><a href="index.html">Home page</a>
    <li><a href="musings.html">Musings</a>
    <li><a href="town.html">My town</a>
    <li><a href="links.html">Links</a>
</ul>
<!-- Main content -->
<h1 style="
    border-style: solid;
    border-width: 7px;
    padding: 20px;
    text-align: center;
    color: black;
    width: 50%;">
    >My first styled page</h1>
<p>Welcome to my styled page!
<p>It lacks images, but at least it has style.
And it has links, even if they don't go
anywhere&hellip;
<p>There should be more here, but I don't know
what yet.
<!-- Sign and date the page, it's only polite! -->
<address>Made 5 April 2004<br>
    by myself.</address>
</body>
</html>
```

In-line style definition

- [Home page](#)
- [Musings](#)
- [My town](#)
- [Links](#)

My first styled page

Welcome to my styled page!

It lacks images, but at least it has style. And it has links, even if they don't go anywhere...

There should be more here, but I don't know what yet.

*Made 5 April 2004
by myself.*

```
<head><title>Example 3</title>
<style type="text/css">
border-style: solid;
border-width: 7px;
padding: 20px;
text-align: center;
color: black;
width: 50%;</style>
</head>
<body>
<!-- Site navigation menu --&gt;
&lt;ul class="navbar"&gt;
&lt;li&gt;&lt;a href="index.html"&gt;Home page&lt;/a&gt;
&lt;li&gt;&lt;a href="musings.html"&gt;Musings&lt;/a&gt;
&lt;li&gt;&lt;a href="town.html"&gt;My town&lt;/a&gt;
&lt;li&gt;&lt;a href="links.html"&gt;Links&lt;/a&gt;
&lt;/ul&gt;
<!-- Main content --&gt;
&lt;h1&gt;My first styled page&lt;/h1&gt;
&lt;p&gt;Welcome to my styled page!&lt;/p&gt;
&lt;p&gt;It lacks images, but at least it has style.<br/>
And it has links, even if they don't go anywhere&hellip;  

<p>There should be more here, but I don't know what yet.  

<!-- Sign and date the page, it's only polite! --&gt;
&lt;address&gt;Made 5 April 2004&lt;br&gt;by myself.&lt;/address&gt;
&lt;/body&gt;
&lt;/html&gt;</pre>
```

Internal style-sheet definition

**Put the Internal Style Definition
into an External File**

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html>
<head>
<title>My first styled page</title>
<link rel="stylesheet" type="text/css" href="style.css">
</head>
<body>
<!-- Site navigation menu --&gt;
&lt;ul class="navbar"&gt;
&lt;li&gt;&lt;a href="index.html"&gt;Home page&lt;/a&gt;
&lt;li&gt;&lt;a href="musings.html"&gt;Musings&lt;/a&gt;
&lt;li&gt;&lt;a href="town.html"&gt;My town&lt;/a&gt;
&lt;li&gt;&lt;a href="links.html"&gt;Links&lt;/a&gt;
&lt;/ul&gt;
<!-- Main content --&gt;
&lt;h1&gt;My first styled page&lt;/h1&gt;
&lt;p&gt;Welcome to my styled page!
&lt;p&gt;It lacks images, but at least it has style.
And it has links, even if they don't go
anywhere&amp;hellip;;
&lt;p&gt;There should be more here, but I don't know what yet.
&lt!-- Sign and date the page, it's only polite! --&gt;
&lt;address&gt;Made 5 April 2004&lt;br&gt; by myself.&lt;/address&gt;
&lt;/body&gt;
&lt;/html&gt;</pre>
```

External style definition

3 Ways of Style Definition + Cascading Rule

- **Inline style definition (Highest priority)**
- **Internal style definition (Middle priority)**
- **External style definition (Lowest priority)**
- **Style defined last has priority over style defined earlier**

STEP I: WRITING THE HTML

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Step I is to open your text editor (Notepad,TextEdit, KEdit, or whatever is your favorite), start with an empty window and type the following:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html>
<head>
  <title>My first styled page</title>
</head>
```

Local links

[1.The HTML](#)

[2.Adding color](#)

[3.Adding fonts](#)

[4.A navigation bar](#)

[5. Styling links](#)

[6. Horizontal line](#)

[7. External CSS](#)

[Further reading](#)

Local links

1.The HTML

2.Adding color

3.Adding fonts

4.A navigation bar

5. Styling links

6. Horizontal line

7. External CSS

Further reading

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html>
<head>
  <title>My first styled page</title>
</head>

<body>

  <!-- Site navigation menu -->
  <ul class="navbar">
    <li><a href="index.html">Home page</a>
    <li><a href="musings.html">Musings</a>
    <li><a href="town.html">My town</a>
    <li><a href="links.html">Links</a>
  </ul>

  <!-- Main content -->
  <h1>My first styled page</h1>

  <p>Welcome to my styled page!

  <p>It lacks images, but at least it has style.
  And it has links, even if they don't go
  anywhere&hellip;

  <p>There should be more here, but I don't know
  what yet.

  <!-- Sign and date the page, it's only polite! -->
  <address>Made 5 April 2004<br>
    by myself.</address>

</body>
</html>
```

Add Navigation Bar

```
<nav>
  <ul>
    <li><a href="#">Work</a></li>
    <li><a href="#">About</a></li>
    <li><a href="#">Resume</a></li>
    <li><a href="#">Blog</a></li>
  </ul>
</nav>
```

- [Work](#)
- [About](#)
- [Resume](#)
- [Blog](#)

- [Work](#)
- [About](#)
- [Resume](#)
- [Blog](#)

```
<nav>
  <ul>
    <li><a href="#">Work</a></li>
    <li><a href="#">About</a></li>
    <li><a href="#">Resume</a></li>
    <li><a href="#">Blog</a></li>
  </ul>
</nav>
```

```
nav ul {  
    list-style-type: none;  
    margin: 0;  
    padding: 0;  
}
```



Work
About
Resume
Blog

```
<nav>  
    <ul>  
        <li><a href="#">Work</a></li>  
        <li><a href="#">About</a></li>  
        <li><a href="#">Resume</a></li>  
        <li><a href="#">Blog</a></li>  
    </ul>  
</nav>
```

```
nav ul {  
    list-style-type: none;  
    margin: 0;  
    padding: 0;  
}  
  
nav ul li {  
    float:left;  
}
```

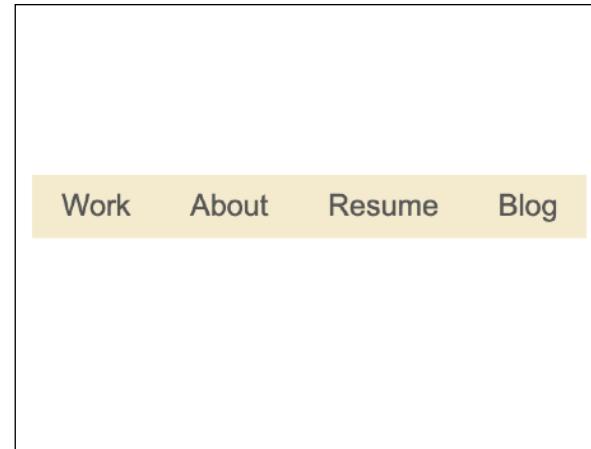
WorkAboutResumeBlog

```
<nav>  
    <ul>  
        <li><a href="#">Work</a></li>  
        <li><a href="#">About</a></li>  
        <li><a href="#">Resume</a></li>  
        <li><a href="#">Blog</a></li>  
    </ul>  
</nav>
```

```
nav ul {  
    list-style-type: none;  
    margin: 0;  
    padding: 0;  
}
```

```
nav ul li {  
    float:left;  
}
```

```
nav ul li a {  
    color: #555;  
    padding: 8px 16px;  
    margin: 1px 0px;  
    background-color: #F5ECCE;  
    text-decoration: none;  
}
```



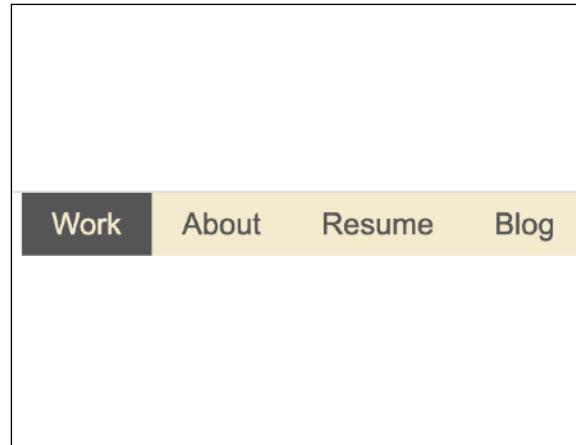
```
<nav>  
    <ul>  
        <li><a href="#">Work</a></li>  
        <li><a href="#">About</a></li>  
        <li><a href="#">Resume</a></li>  
        <li><a href="#">Blog</a></li>  
    </ul>  
</nav>
```

```
nav ul {  
    list-style-type: none;  
    margin: 0;  
    padding: 0;  
}
```

```
nav ul li {  
    float:left;  
}
```

```
nav ul li a {  
    color: #555;  
    padding: 8px 16px;  
    margin: 1px 0px;  
    background-color: #F5ECCE;  
    text-decoration: none;  
}
```

```
nav ul li a:hover {  
    background-color: #555;  
    color: #F5ECCE;  
}
```



```
<nav>  
    <ul>  
        <li><a href="#">Work</a></li>  
        <li><a href="#">About</a></li>  
        <li><a href="#">Resume</a></li>  
        <li><a href="#">Blog</a></li>  
    </ul>  
</nav>
```

STEP 2: ADDING SOME COLORS

You probably see some black text on a white background, but it depends on how the browser is configured. So one easy thing we can do to make the page more stylish is to add some colors. (Leave the browser open, we will use it again later.)

We will start with a style sheet embedded inside the HTML file. Later, we will put the HTML and the CSS in separate files. Separate files is good, since it makes it easier to use the same style sheet for multiple HTML files: you only have to write the style sheet once. But for this step, we just keep everything in one file.

We need to add a `<style>` element to the HTML file. The style sheet will be inside that element. So go back to the editor window and add the following five lines in the head part of the HTML file. The lines to add are shown in red.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html>
<head>
  <title>My first styled page</title>
  <style type="text/css">
    body {
      color: purple;
      background-color: #d8da3d }
  </style>
</head>

<body>
[etc.]
```

Local links

[1.The HTML](#)

[2.Adding color](#)

[3.Adding fonts](#)

[4.A navigation bar](#)

[5.Styling links](#)

[6.Horizontal line](#)

[7.External CSS](#)

[Further reading](#)

- [Home page](#)
- [Musings](#)
- [My town](#)
- [Links](#)

My first styled page

Welcome to my styled page!

It lacks images, but at least it has style. And it has links, even if they don't go anywhere...

There should be more here, but I don't know what yet.

*Made 5 April 2004
by myself.*

STEP 3: ADDING FONTS

Another thing that is easy to do is to make some distinction in the fonts for the various elements of the page. So let's set the text in the "Georgia" font, except for the h1 heading, which we'll give "Helvetica."

On the Web, you can never be sure what fonts your readers have on their computers, so we add some alternatives as well: if Georgia is not available, Times New Roman or Times are also fine, and if all else fails, the browser may use any other font with [serifs](#). If Helvetica is absent, Geneva, Arial and SunSans-Regular are quite similar in shape, and if none of these work, the browser can choose any other font that is serif-less.

In the text editor add the following lines:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html>
<head>
  <title>My first styled page</title>
  <style type="text/css">
    body {
      font-family: Georgia, "Times New Roman",
                  Times, serif;
      color: purple;
      background-color: #d8da3d }
    h1 {
      font-family: Helvetica, Geneva, Arial,
                  SunSans-Regular, sans-serif }
  </style>
</head>

<body>
[etc.]
```

Local links

1. The HTML
 2. Adding color
 3. Adding fonts
 4. A navigation bar
 5. Styling links
 6. Horizontal line
 7. External CSS
- Further reading

- [Home page](#)
- [Musings](#)
- [My town](#)
- [Links](#)

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Local links

1.The HTML

2.Adding color

3.Adding fonts

4.A navigation bar

5.Styling links

6.Horizontal line

7.External CSS

Further reading

STEP 4: ADDING A NAVIGATION BAR

The list at the top of the HTML page is meant to become a navigation menu. Many Web sites have some sort of menu along the top or on the side of the page and this page should have one as well. We will put it on the left side, because that is a little more interesting than at the top...

The menu is already in the HTML page. It is the `` list at the top. The links in it don't work, since our "Web site" so far consists of only one page, but that doesn't matter now. On a real Web site, there should not be any broken links, of course.

So we need to move the list to the left and move the rest of the text a little to the right, to make room for it. The CSS properties we use for that are 'padding-left' (to move the body text) and 'position', 'left' and 'top' (to move the menu).

There are other ways to do it. If you look for "column" or "layout" on the [Learning CSS](#) page, you will find several ready-to-run templates. But this one is OK for our purposes.

In the editor window, add the following lines to the HTML file:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html>
<head>
<title>My first styled page</title>
<style type="text/css">
body {
    padding-left: 11em;
    font-family: Georgia, "Times New Roman",
        Times, serif;
    color: purple;
    background-color: #d8da3d }
ul.navbar {
    position: absolute;
    top: 2em;
    left: 1em;
    width: 9em }
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html>
<head>
<title>My first styled page</title>
<style type="text/css">
body {
    color: purple;
    background-color: #d8da3d }
ul.navbar {
    position: absolute;
    top: 2em;
    left: 1em;
    width: 9em }
h1 {
    font-family: Helvetica, Geneva, Arial,
    SunSans-Regular, sans-serif }
</style>
</head>
<body>
<!-- Site navigation menu --&gt;
&lt;ul class="navbar"&gt;
&lt;li&gt;&lt;a href="index.html"&gt;Home page&lt;/a&gt;
&lt;li&gt;&lt;a href="musings.html"&gt;Musings&lt;/a&gt;
&lt;li&gt;&lt;a href="town.html"&gt;My town&lt;/a&gt;
&lt;li&gt;&lt;a href="links.html"&gt;Links&lt;/a&gt;
&lt;/ul&gt;
<!-- Main content --&gt;
:
:</pre>
```

Code View - Step 4 (Add navbar)

- [Home page](#)
- [Musings](#)
- [My town](#)
- [Links](#)

My first styled page

Welcome to my styled page!

It lacks images, but at least it has style. And it has links, even if they don't go anywhere...

There should be more here, but I don't know what yet.

*Made 5 April 2004
by myself.*

STEP 5: STYLING THE LINKS

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html>
<head>
<title>My first styled page</title>
<style type="text/css">
body {
  padding-left: 1em;
  font-family: Georgia, "Times New Roman",
    Times, serif;
  color: purple;
  background-color: #d8da3d }
ul.navbar {
  list-style-type: none;
  padding: 0;
  margin: 0;
  position: absolute;
  top: 2em;
  left: 1em;
  width: 9em }
h1 {
  font-family: Helvetica, Geneva, Arial,
    SunSans-Regular, sans-serif }
ul.navbar li {
  background: white;
  margin: 0.5em 0;
  padding: 0.3em;
  border-right: 1em solid black }
ul.navbar a {
  text-decoration: none }
a:link {
  color: blue }
a:visited {
  color: purple }
</style>
```

1.The HTML

2.Adding color

3.Adding fonts

4.A navigation bar

5. Styling links

6.Horizontal line

7.External CSS

Further reading

Home page

My first styled page

Musings

Welcome to my styled page!

My town

It lacks images, but at least it has style. And it has links, even if they don't go anywhere...

Links

There should be more here, but I don't know what yet.

*Made 5 April 2004
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Local links

1.The HTML

2.Adding color

3.Adding fonts

4.A navigation bar

5.Styling links

6.Horizontal line

7.External CSS

Further reading

STEP 6: ADDING A HORIZONTAL LINE

The final addition to the style sheet is a horizontal rule to separate the text from the signature at the bottom. We will use 'border-top' to add a dotted line above the <address> element:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
  h1 {
    font-family: Helvetica, Geneva, Arial,
    SunSans-Regular, sans-serif }
  ul.navbar li {
    background: white;
    margin: 0.5em 0;
    padding: 0.3em;
    border-right: 1em solid black }
  ul.navbar a {
    text-decoration: none }
  a:link {
    color: blue }
  a:visited {
    color: purple }
  address {
    margin-top: 1em;
    padding-top: 1em;
    border-top: thin dotted }
</style>
</head>

<body>
[etc.]
```

Home page

Musings

My town

Links

My first styled page

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It lacks images, but at least it has style. And it has links, even if they don't go anywhere...

There should be more here, but I don't know what yet.

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STEP 7: PUTTING THE STYLE SHEET IN A SEPARATE FILE

We now have an HTML file with an embedded style sheet. But if our site grows we probably want many pages to share the same style. There is a better method than copying the style sheet into every page: if we put the style sheet in a separate file, all pages can point to it.

To make a style sheet file, we need to create another empty text file. You can choose "New" from the File menu in the editor, to create an empty window. (If you are usingTextEdit, don't forget to make it plain text again, using the Format menu.)

Then cut and paste everything that is inside the `<style>` element from the HTML file into the new window. Don't copy the `<style>` and `</style>` themselves. They belong to HTML, not to CSS. In the new editor window, you should now have the complete style sheet:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html>
<head>
  <title>My first styled page</title>
  <link rel="stylesheet" href="mystyle.css">
</head>

<body>
[etc.]
```

Local links

[1.The HTML](#)

[2.Adding color](#)

[3.Adding fonts](#)

[4.A navigation bar](#)

[5.Styling links](#)

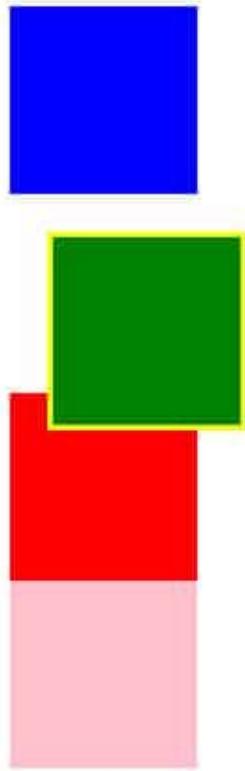
[6.Horizontal line](#)

[7.External CSS](#)

[Further reading](#)

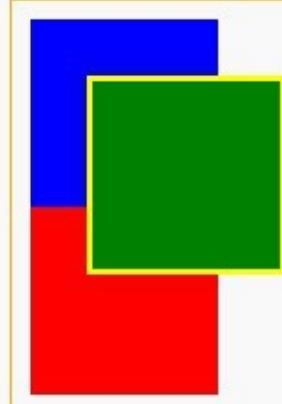
4 Ways of Positioning Display Box

- **Static** - default position of a box following the normal document flow (not affected by top, left, right, bottom pos.)
- **Fixed** - it always stay on the same location as defined by the positions (top and left or bottom or right) even the page is scrolled. Unlike absolute, its parent is the viewport.
- **Relative** - relative when used with top and left position pair or bottom and right position pair will allow the object box to be moved to a new location relative to its current position (not container).
- **Absolute** - take the positioning out of the document flow and place it at a location (top and left position) as defined in relationship to its containing (or parent) element (context). The container/parent should be set to relative.



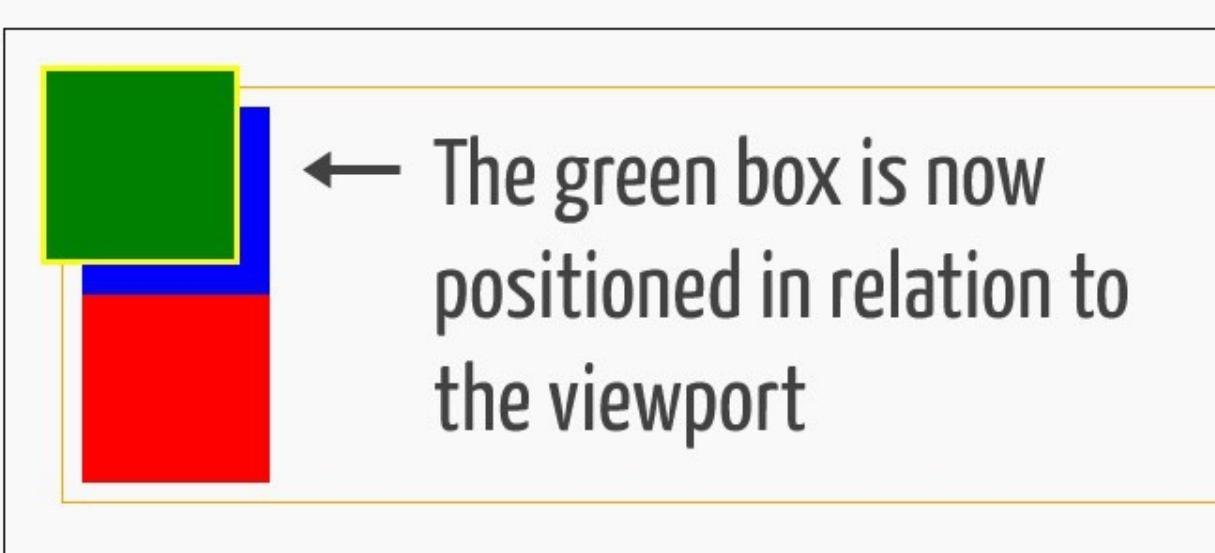
The second box is set to “position: relative” and is offset using top and left values.

Source: CSS Positioning: A Comprehensive Look
(<http://blog.teamtreehouse.com/css-positioning>)



The second box is set to “position: absolute” and is offset in relation to the “.container” element

Source: CSS Positioning: A Comprehensive Look
(<http://blog.teamtreehouse.com/css-positioning>)



Source: CSS Positioning: A Comprehensive Look
(<http://blog.teamtreehouse.com/css-positioning>)

Box 1

Box 2

Box 3

The Grammar of CSS

- Styles define how to display HTML elements
- Each style description is made up of a Selector and Declaration
- Selector defines which HTML element should be used for display and the declaration defines how
- Each declaration contains properties and values
- There are base and custom selectors (ID and CLASS are custom selectors)
- Style definition can be placed inline, in the head section or in an external file (e.g. `style.css`)

**Composition is essential to visual design.
But challenges exist in adapting content
display and interactions across different
devices.**

Enter Responsive Design.

“Responsive design is a graphic user interface (GUI) design approach used to create content that adjusts smoothly to various screen sizes. “

~ Interaction Design Foundation

Three Key Elements in **Responsive Design** for Web Development.

**Responsive Design = View Port + Media Query +
Max/Min Width Setting**

Example

VIEW PORT

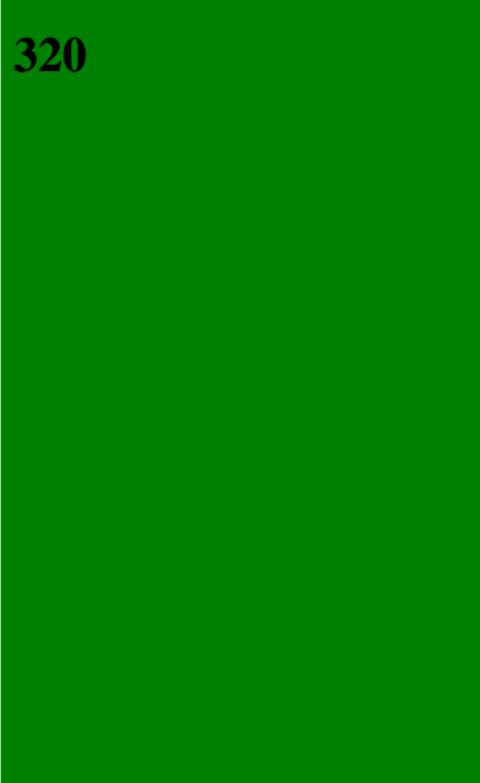
```
<meta name="viewport" content="width=device-width, initial-scale=1.0, user-scalable=0">
```

Higher than 960

960

768

550



320

mq_demo.css

```
body {  
    background-color: grey;  
}  
  
@media screen and (max-width: 960px) {  
    body {  
        background-color: red;  
    }  
}  
  
@media screen and (max-width: 768px) {  
    body {  
        background-color: orange;  
    }  
}  
  
@media screen and (max-width: 550px) {  
    body {  
        background-color: yellow;  
    }  
}  
  
@media screen and (max-width: 320px) {  
    body {  
        background-color: green;  
    }  
}
```

MEDIA QUERY + MAX/MIN WIDTH SETTING

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<meta charset="utf-8">
```

```
<meta name="viewport" content="width=device-width, initial-scale=1.0, user-scalable=0">
```

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

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

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.12.4/jquery.min.js"></script>
```

```
<script>
```

```
$(document).ready(function() {
```

```
    $(window).resize(function() {
```

```
        if ($(window).width() >= 960) {
```

```
            $(".showview").html('<h1>Higher than 960</h1>');
```

```
        }
```

```
        if ($(window).width() < 960) {
```

```
            $(".showview").html('<h1>960</h1>');
```

```
        }
```

```
        if ($(window).width() < 768) {
```

```
            $(".showview").html('<h1>768</h1>');
```

```
        }
```

```
        if ($(window).width() < 550) {
```

```
            $(".showview").html('<h1>550</h1>');
```

```
        }
```

```
        if ($(window).width() < 320) {
```

```
            $(".showview").html('<h1>320</h1>');
```

VIEW PORT

```
<script>
$(document).ready(function() {
    $(window).resize(function() {
        if ($(window).width() >= 960) {
            $(".showview").html('<h1>Higher than 960</h1>');
        }
        if ($(window).width() < 960) {
            $(".showview").html('<h1>960</h1>');
        }
        if ($(window).width() < 768) {
            $(".showview").html('<h1>768</h1>');
        }
        if ($(window).width() < 550) {
            $(".showview").html('<h1>550</h1>');
        }
        if ($(window).width() < 320) {
            $(".showview").html('<h1>320</h1>');
        }
    });
});
```

</script>

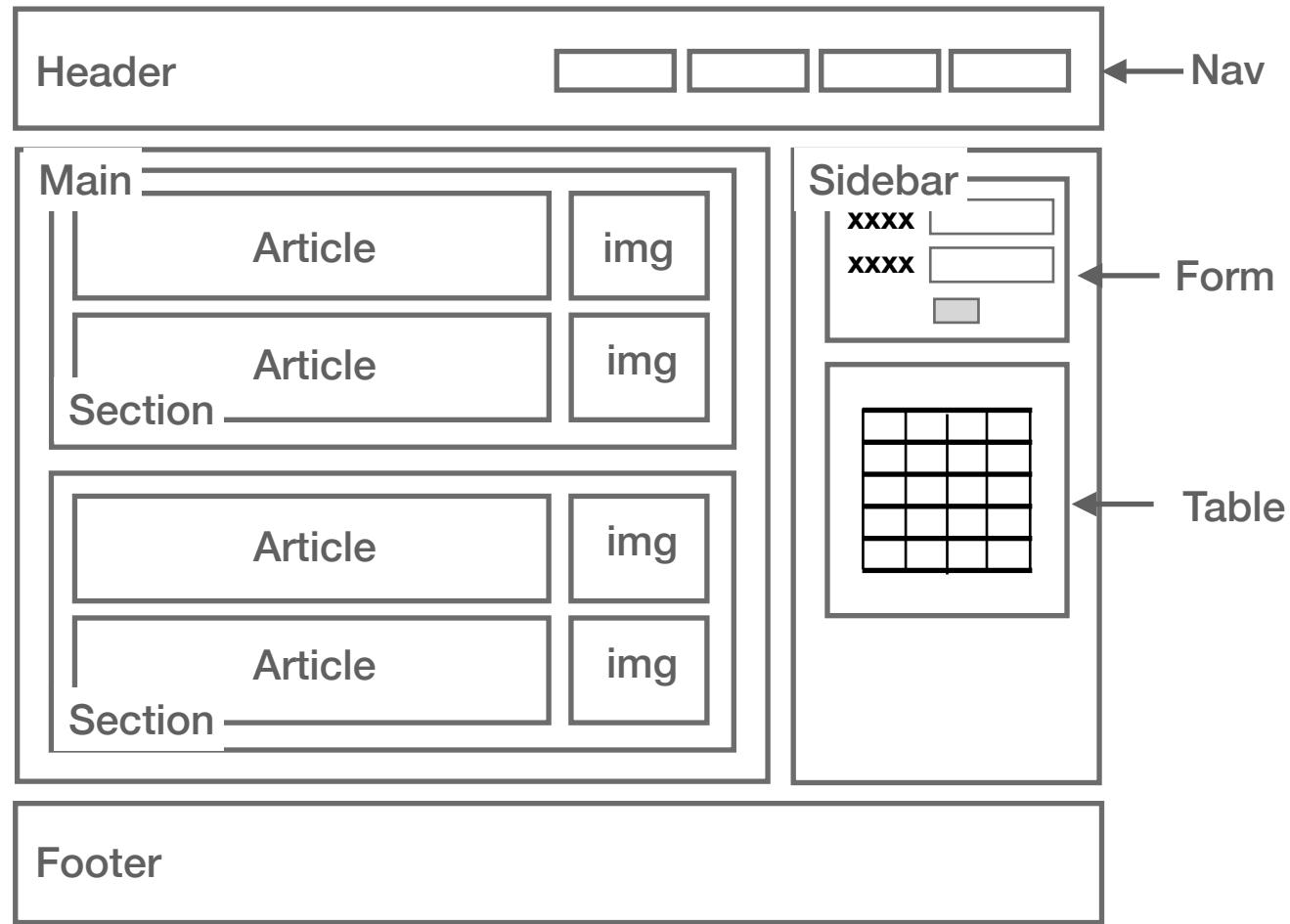
</head>

<body>

<div class="showview"></div>

Layout (Composition) Using Float

Wireframe



Section 1

Article 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus eu ligula consequat nisl tempor ultricies. Suspendisse porta tempus eleifend. Suspendisse potenti. Nam ultrices, dolor ac faucibus ornare, nulla enim feugiat ante, a bibendum velit felis in libero. Nullam feugiat metus lacinia urna mollis venenatis. Mauris mollis erat molestie, pharetra massa eget, placerat lectus. Aenean pharetra dolor sed odio vehicula, ut commodo lacus fringilla. Duis et diam placerat, eleifend orci eget, egestas erat.



Article 2

Vestibulum ullamcorper nisl elit non semper nunc viverra eu

User Name:

Password:

Event	Month	Day	Venue
Lesson 5	Oct	5th	Online
Lesson 6	Oct	12th	Online
Lesson 7	Oct	19th	Online
Lesson 8	Oct	26th	Online

```
<div id='main'>
  <div class='section'>
    <h1><center>Section 1</center></h1>
    <br>
    <h2>Article 1</h2>
    
    <div class='article'>
```

Creating a class div called 'wrapper'.

n 1

Article 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus eu ligula consequat nisl tempor ultricies. Suspendisse porta tempus eleifend. Suspendisse potenti. Nam ultrices, dolor ac faucibus ornare, nulla enim feugiat ante, a bibendum velit felis in libero. Nullam feugiat metus lacinia urna mollis venenatis. Mauris mollis erat molestie, pharetra massa eget, placerat lectus. Aenean pharetra dolor sed odio vehicula, ut commodo lacus fringilla. Duis et diam placerat, eleifend orci eget, egestas erat.



Article 2

Vestibulum ullamcorper nisl elit non semper nunc viverra eu

User Name:

Password:

Send

Event	Month	Day	Venue
Lesson 5	Oct	5th	Online
Lesson 6	Oct	12th	Online
Lesson 7	Oct	19th	Online
Lesson 8	Oct	26th	Online

```
</tr>
</table>
<div id='answer'></div>
</div><!-- end of sidebar -->
</div><!-- end of wrapper -->
```

```
.wrapper {  
    display:grid;  
    grid-template-columns: 69.5% 29.5%;  
}  
  
#main {  
    /* float:left;  
    width:69.5%; */  
    box-sizing:border-box;  
    border:0px;  
}
```

Article 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus eu ligula consequat nisl tempor ultricies. Suspendisse porta tempus eleifend. Suspendisse potenti. Nam ultrices, dolor ac faucibus ornare, nulla enim feugiat ante, a bibendum velit felis in libero. Nullam feugiat metus lacinia urna mollis venenatis. Mauris mollis erat molestie, pharetra massa eget, placerat lectus. Aenean pharetra dolor sed odio vehicula, ut commodo lacus fringilla. Duis et diam placerat, eleifend orci eget, egestas erat.

Article 2

Vestibulum ullamcorper nisl elit non semper nunc viverra eu

Define .wrapper as a 'grid' and comment out the 'float'.



<input type="text"/>
Password:
<input type="text"/>
<input type="button" value="Send"/>

Event	Month	Day	Venue
Lesson 5	Oct	5th	Online
Lesson 6	Oct	12th	Online
Lesson 7	Oct	19th	Online
Lesson 8	Oct	26th	Online

```
#sidebar {  
    /* float:right;  
    width:29.5%; */  
    box-sizing:border-box;  
    border:0px;  
}
```

```
.wrapper {  
  display:grid;  
  /* grid-template-columns: 69.5% 29.5%; */  
  grid-template-columns: 2fr 1fr;  
}
```

```
#main {  
  /* float:left; */  
  width:69.5%;  
  box-sizing:border-box;  
  border:0px;  
}
```

Article 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus eu ligula consequat nisl tempor ultricies. Suspendisse porta tempus eleifend. Suspendisse potenti. Nam ultrices, dolor ac faucibus ornare, nulla enim feugiat ante, a bibendum velit felis in libero. Nullam feugiat metus lacinia urna mollis venenatis. Mauris mollis erat molestie, pharetra massa eget, placerat lectus. Aenean pharetra dolor sed odio vehicula, ut commodo lacus fringilla. Duis et diam placerat, eleifend orci eget, egestas erat.

Article 2

Vestibulum ullamcorper nisl elit non semper nunc viverra eu

Define the grid columns using fraction (fr).

on 1



User Name:

Password:

Send

Event	Month	Day	Venue
Lesson 5	Oct	5th	Online
Lesson 6	Oct	12th	Online
Lesson 7	Oct	19th	Online
Lesson 8	Oct	26th	Online

#sidebar {

```
/* float:right; */  
width:29.5%;  
box-sizing:border-box;  
border:0px;  
}
```

```
.wrapper {  
  display:grid;  
  /* grid-template-columns: 69.5% 29.5%; */  
  grid-template-columns: 2fr 1fr;  
  grid-gap: 1em;  
}
```

1

Use 'grid-gap' to expand the distance between columns.

Article 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus eu ligula consequat nisl tempor ultricies. Suspendisse porta tempus eleifend. Suspendisse potenti. Nam ultrices, dolor ac faucibus ornare, nulla enim feugiat ante, a bibendum velit felis in libero. Nullam feugiat metus lacinia urna mollis venenatis. Mauris mollis erat molestie, pharetra massa eget, placerat lectus. Aenean pharetra dolor sed odio vehicula, ut commodo lacus fringilla. Duis et diam placerat, eleifend orci eget, egestas erat.



Event	Month	Day	Venue
lesson 5	Oct	5th	Online
lesson 6	Oct	12th	Online
lesson 7	Oct	19th	Online
lesson 8	Oct	26th	Online

```
.wrapper {  
  display:grid;  
  /* grid-template-columns: 69.5% 29.5%; */  
  grid-template-columns: 2fr 1fr;  
  grid-gap: 2em;  
}
```

1

Article 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus eu ligula consequat nisl tempor ultricies. Suspendisse porta tempus eleifend. Suspendisse potenti. Nam ultrices, dolor ac faucibus ornare, nulla enim feugiat ante, a bibendum velit felis in libero. Nullam feugiat metus lacinia urna mollis venenatis. Mauris mollis erat molestie, pharetra massa eget, placerat lectus. Aenean pharetra dolor sed odio vehicula, ut commodo lacus fringilla. Duis et diam placerat, eleifend orci eget, egestas erat.



User Name:

Password:

Event	Month	Day	Venue
Lesson 5	Oct	5th	Online
Lesson 6	Oct	12th	Online
Lesson 7	Oct	19th	Online
Lesson 8	Oct	26th	Online

```
.wrapper {  
  display:grid;  
  /* grid-template-columns: 69.5% 29.5%; */  
  grid-template-columns: 1fr 1fr;  
  grid-gap: 2em;  
}
```

Section 1

Article 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus eu ligula consequat nisl tempor ultricies. Suspendisse porta tempus eleifend. Suspendisse potenti. Nam ultrices, dolor ac faucibus ornare, nulla enim feugiat ante, a bibendum velit felis in libero. Nullam feugiat metus lacinia urna mollis venenatis. Mauris mollis erat molestie, pharetra massa eget, placerat lectus. Aenean pharetra dolor sed odio vehicula, ut commodo lacus fringilla. Duis et diam placerat, eleifend orci eget, egestas erat.



```
.wrapper {  
  display:grid;  
  /* grid-template-columns: 69.5% 29.5%; */  
  grid-template-columns: repeat(2,1fr);  
  grid-gap: 2em;  
}
```

User Name:

Password:

Send

Event	Month	Day	Venue
Lesson 5	Oct	5th	Online
Lesson 6	Oct	12th	Online
Lesson 7	Oct	19th	Online
Lesson 8	Oct	26th	Online

Two ways to define the grid columns.

Handling of responsive grid in media query.

The screenshot shows a browser developer tools window with the following details:

- Responsive View:** Set to 570px width and 223px height, at 100% zoom, in online mode.
- Preview Area:** Shows a yellow header bar with menu items "About Courses Meetings Blogs" and a white section below it with the heading "Section 1".
- DOM Tree:** The "Elements" tab is active, showing the following structure:

```
<div class="container">
  <div id="header">...</div>
  <div class="wrapper"> == $0
    <div id="main">
      <div class="section">
        <h1>...</h1>
        <br>
        <h2>Article 1</h2>
        
      </div>
      <div class="article">
```

The `<div class="wrapper">` element is highlighted with a red box.
- Styles Panel:** The "Styles" tab is active, displaying the following media query rule:

```
@media (max-width: 600px)
  .wrapper {
    display: grid;
    grid-template-columns: none;
}
```

This rule is highlighted with a red box.

Screen Layout (Composition) Using **Flexbox**

Creating a class div called 'wrapper'.

```
<div id='main'>
  <div class='wrapper'>
    <div class='box1'>
      <h3>box 1</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.
         Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
    <div class='box2'>
      <h3>box 2</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.
         Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
    <div class='box3'>
      <h3>box 3</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.
         Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
  </div>
  <div class='wrapper'>
    <div class='box4'>
      <h3>box 4</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.
         Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
    <div class='box5'>
      <h3>box 5</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.
         Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
    <div class='box6'>
      <h3>box 6</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.
         Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
  </div>
</div>
```

Define .wrapper as 'flex'.

```
.wrapper {
  display: flex;
}

.box1 {
  border: 1px solid silver;
  flex: 1;
  order: 1;
  padding: 1em;
}

.box2 {
  border: 1px solid silver;
  flex: 1;
  order: 2;
  padding: 1em;
}

.box3 {
  border: 1px solid silver;
  flex: 1;
  order: 3;
  padding: 1em;
}
```

The screenshot shows a web page layout using flexbox. At the top is a navigation bar with links: Home, About, Courses, Meetings, Blogs. Below the navigation bar is a user login form with fields for User Name, Password, and a Send button. The main content area features three columns, each containing a box labeled 'box 1', 'box 2', and 'box 3'. Each box contains placeholder text: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus eu ligula consequat nisl tempor ultricies.' To the right of the columns is a table with columns: Event, Month, Day, and Venue. The table has six rows, each representing a lesson from Lesson 5 to Lesson 10, all scheduled for October.

Event	Month	Day	Venue
Lesson 5	Oct	5th	Online
Lesson 6	Oct	12th	Online
Lesson 7	Oct	19th	Online
Lesson 8	Oct	26th	Online
Lesson 9	Oct	2nd	Online
Lesson 10	Oct	9th	Online

Create class selector for box1- box3

Assign class properties to box1-box3

```

<div id='main'>
  <div class='wrapper'>
    <div class='box1'>
      <h3>box 1</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.  

          Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
    <div class='box2'>
      <h3>box 2</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.  

          Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
    <div class='box3'>
      <h3>box 3</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.  

          Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
  </div>
  <div class='wrapper'>
    <div class='box4'>
      <h3>box 4</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.  

          Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
    <div class='box5'>
      <h3>box 5</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.  

          Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
    <div class='box6'>
      <h3>box 6</h3>
      <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.  

          Phasellus eu ligula consequat nisl tempor ultricies.</p>
    </div>
  </div>
</div>

```

```

.box4 {
  border: 1px solid silver;
  flex: 2;
  order: 1;
  padding: 1em;
}

.box5 {
  border: 1px solid silver;
  flex: 1;
  order: 2;
  padding: 1em;
}

.box6 {
  border: 1px solid silver;
  flex: 1;
  order: 3;
  padding: 1em;
}

```

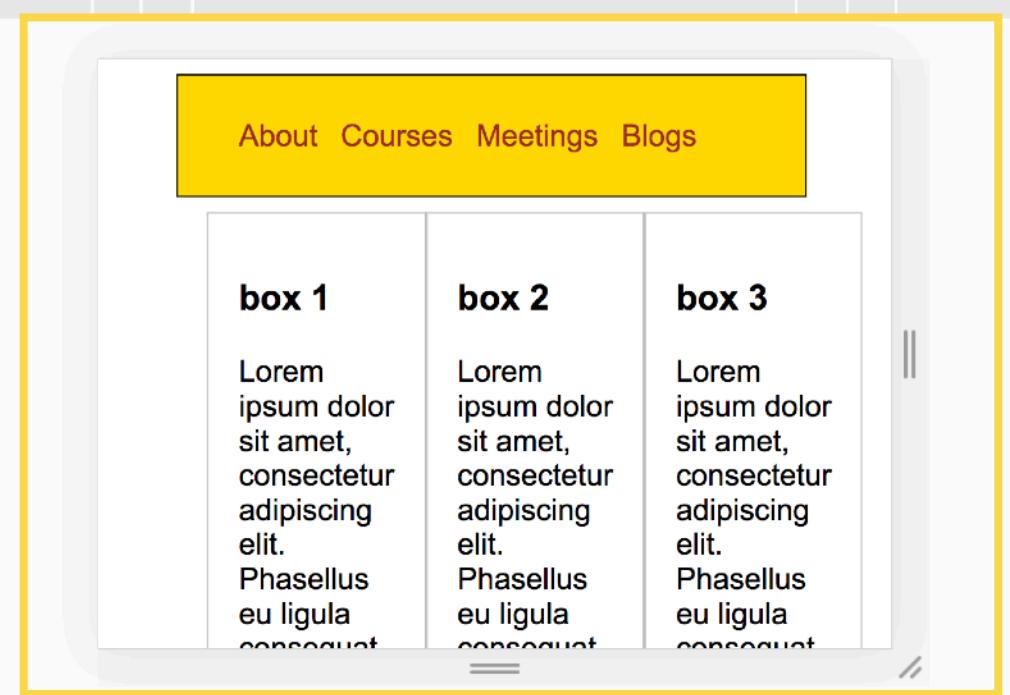
The screenshot shows a web page layout. At the top, there's a navigation bar with links for About, Courses, Meetings, and Blogs. Below the navigation is a sidebar containing input fields for User Name and Password, and a Send button. To the right of the sidebar is a table with columns for Event, Month, Day, and Venue, listing several entries. The main content area features six boxes labeled box 1 through box 6, each with a title and some placeholder text.

Event	Month	Day	Venue
Lesson 5	Oct	5th	Online
Lesson 6	Oct	12th	Online
Lesson 7	Oct	19th	Online
Lesson 8	Oct	26th	Online

Create class selector for box4- box6

Assign class properties to box4-box6

```
@media (max-width:600px) {  
    #main, #sidebar {  
        width:100%;  
        float:none;  
    }  
  
    .wrapper {  
        display:flex;  
    }  
  
    /* .wrapper {  
        display: grid;  
        grid-template-columns: none;  
    } */  
}
```



Use media query to handle responsive display.

Popular Web Front-end UI Frameworks.

Foundation

The most advanced responsive front-end framework in the world.

[Download Foundation 6](#)

★ 21.4k GitHub stars

Twitter @FoundationCSS



<https://get.foundation/>

Responsive design gets a whole lot faster

A Framework for any device, medium, and accessibility. Foundation is a family of responsive front-end



Rapidly build modern websites without ever leaving your HTML.

A utility-first CSS framework packed with classes like **flex**, **pt-4**, **text-center** and **rotate-90** that can be composed to build any design, directly in your markup.

Get started

\$ npm install tailwindcss

<https://tailwindcss.com/>



ooo

```
1 <figure class="bg-gray-100 rounded-xl">
2   
3   <div class="pt-6 space-y-4">
4     <blockquote>
5       <p class="text-lg">
6         "Tailwind CSS is the only framework that I've seen scale
7         on large teams. It's easy to customize, adapts to any design,
8         and the build size is tiny."
9       </p>
10      </blockquote>
```

Bootstrap

Build responsive, mobile-first projects on the web with the world's most popular front-end component library.

Bootstrap is an open source toolkit for developing with HTML, CSS, and JS. Quickly prototype your ideas or build your entire app with our Sass variables and mixins, responsive grid system, extensive prebuilt components, and powerful plugins built on jQuery.

[Get started](#)[Download](#)

Currently v4.3.1

2



<https://getbootstrap.com/>

Screen Layout (Composition)

Using Bootstrap

Use CDN link to access remote CSS and JS libraries for Bootstrap 4.5.2.

← → 🔍 cdnjs.com/libraries/twitter-bootstrap/4.5.2

Tags: css, less, mobile-first, responsive, front-end, framework, web, twitter, bootstrap

Version 4.5.2 Asset Type All

Some files are hidden, click to show all files

<https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.5.2/js/bootstrap.min.js> ⚡ ↗ 🛡

<https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.5.2/css/bootstrap-grid.min.css> ⚡ ↗ 🛡

<https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.5.2/css/bootstrap-reboot.min.css> ⚡ ↗ 🛡

<https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.5.2/css/bootstrap.min.css> ⚡ ↗ 🛡

<https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.5.2/js/bootstrap.bundle.min.js> ⚡ ↗ 🛡

<https://cdnjs.com/libraries/twitter-bootstrap/4.5.2>

[Getting started](#)[Layout](#)[Overview](#)[Grid](#)[Utilities for layout](#)[Content](#)[Components](#)[Utilities](#)[Extend](#)

Grid system

Use our powerful mobile-first flexbox grid to build layouts of all shapes and sizes thanks to a twelve column system, five default responsive tiers, Sass variables and mixins, and dozens of predefined classes.

How it works

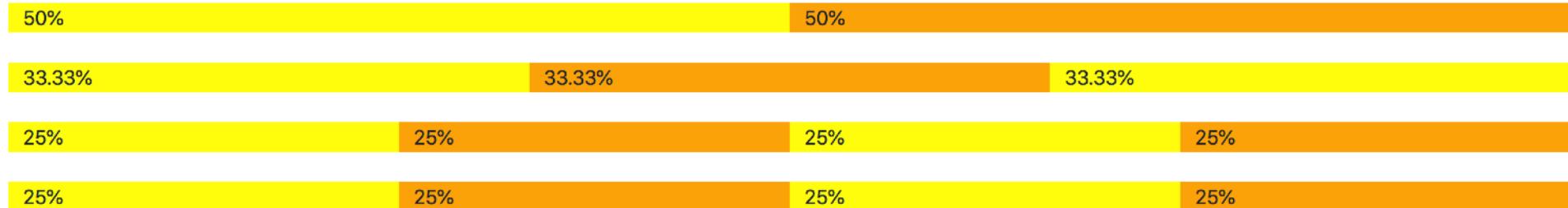
Bootstrap's grid system uses a series of containers, rows, and columns to layout and align content. It's built with [flexbox](#) and is fully responsive.

Basic Grid Structure

Resize the browser window to see the effect.

The first, second and third row will automatically stack on top of each other when the screen is less than 576px wide.

Use CDN link to access remote CSS and JS libraries for Bootstrap 4.5.2.



```
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">
</head>
```

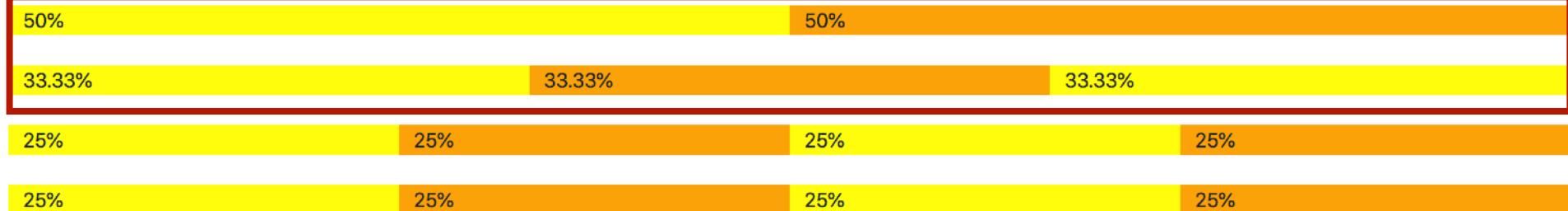
Source: https://www.w3schools.com/bootstrap4/tryit.asp?filename=trybs_grid_ex_structure&stacked=h

Basic Grid Structure

Resize the browser window to see the effect.

The first, second and third row will automatically stack on top of each other when the screen is too small.

**Number of columns add up to 12
then auto resize.**



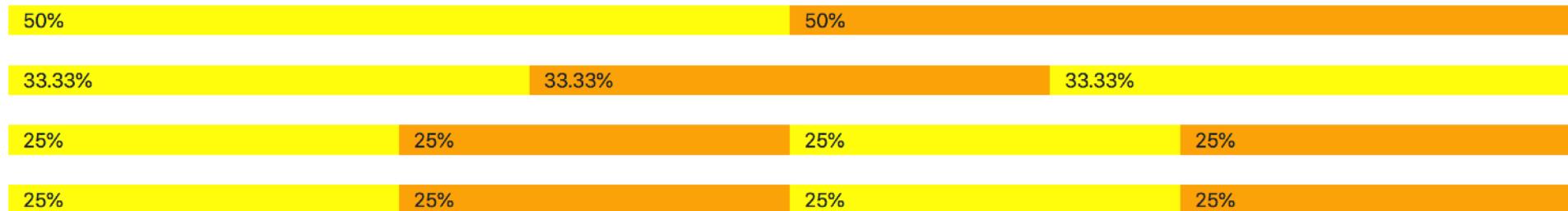
```
<div class="container-fluid">
  <!-- Control the column width, and how they should appear on different devices -->
  <div class="row">
    <div class="col-sm-6" style="background-color: #yellow;">50%</div>
    <div class="col-sm-6" style="background-color: #orange;">50%</div>
  </div>
  <br>

  <div class="row">
    <div class="col-sm-4" style="background-color: #yellow;">33.33%</div>
    <div class="col-sm-4" style="background-color: #orange;">33.33%</div>
    <div class="col-sm-4" style="background-color: #yellow;">33.33%</div>
  </div>
  <br>
```

Basic Grid Structure

Resize the browser window to see the effect.

The first, second and third row will automatically stack on top of each other when the screen is less than 576px wide.



```
<div class="row">
  <div class="col-sm" style="background-color: #yellow;">25%</div>
  <div class="col-sm" style="background-color: #orange;">25%</div>
  <div class="col-sm" style="background-color: #yellow;">25%</div>
  <div class="col-sm" style="background-color: #orange;">25%</div>
</div>
<br>

<div class="row">
  <div class="col" style="background-color: #yellow;">25%</div>
  <div class="col" style="background-color: #orange;">25%</div>
  <div class="col" style="background-color: #yellow;">25%</div>
  <div class="col" style="background-color: #orange;">25%</div>
</div>
```



**Auto resize disabled
without column
specification.**

```
<div class="row">
  <div class="col-sm" style="background-color: #yellow;">25%</div>
  <div class="col-sm" style="background-color: #orange;">25%</div>
  <div class="col-sm" style="background-color: #yellow;">25%</div>
  <div class="col-sm" style="background-color: #orange;">25%</div>
</div>
<br>

<div class="row">
  <div class="col" style="background-color: #yellow;">25%</div>
  <div class="col" style="background-color: #orange;">25%</div>
  <div class="col" style="background-color: #yellow;">25%</div>
  <div class="col" style="background-color: #orange;">25%</div>
</div>
```

Design Patterns in Bootstrap

Common Bootstrap Components

Components

Over a dozen reusable components built to provide iconography, dropdowns, input groups, navigation, alerts, and much more.

Glyphicons

Available glyphs

Includes over 250 glyphs in font format from the Glyphicon Halflings set. [Glyphicons](#) Halflings are normally not available for free, but their creator has made them available for Bootstrap free of cost. As a thank you, we only ask that you include a link back to [Glyphicons](#) whenever possible.

 glyphicon glyphicon-asterisk	 glyphicon glyphicon-plus	 glyphicon glyphicon-euro	 glyphicon glyphicon-eur	 glyphicon glyphicon-minus	 glyphicon glyphicon-cloud	 glyphicon glyphicon-envelope	 glyphicon glyphicon-pencil
 glyphicon glyphicon-glass	 glyphicon glyphicon-music	 glyphicon glyphicon-search	 glyphicon glyphicon-heart	 glyphicon glyphicon-star	 glyphicon glyphicon-star-empty	 glyphicon glyphicon-user	 glyphicon glyphicon-film
 glyphicon glyphicon-th-large	 glyphicon glyphicon-th	 glyphicon glyphicon-th-list	 glyphicon glyphicon-ok	 glyphicon glyphicon-remove	 glyphicon glyphicon-zoom-in	 glyphicon glyphicon-zoom-out	 glyphicon glyphicon-off

Glyphicons
Dropdowns
Button groups
Button dropdowns
Input groups
Navs
Navbar
Breadcrumbs
Pagination
Labels
Badges
Jumbotron
Page header
Thumbnails
Alerts
Progress bars
Media object
List group
Panels
Responsive embed
Wells

<https://getbootstrap.com/docs/3.3/components/#nav>

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Overview

Components and options for laying out your Bootstrap project, including wrapping containers, a powerful grid system, a flexible media object, and responsive utility classes.

Containers

Containers are the most basic layout element in Bootstrap and are **required when using our default grid system**. Choose from a responsive, fixed-width container (meaning its `max-width` changes at each breakpoint) or fluid-width (meaning it's `100%` wide all the time).

Components

[Alerts](#)[Badge](#)[Breadcrumb](#)[Buttons](#)[Button group](#)[Card](#)[Carousel](#)[Collapse](#)[Dropdowns](#)[Forms](#)

Alerts

Provide contextual feedback messages for typical user actions with the handful of available and flexible alert messages.

Examples

Alerts are available for any length of text, as well as an optional dismiss button. For proper styling, use one of the eight **required** contextual classes (e.g., `.alert-success`). For inline dismissal, use the [alerts jQuery plugin](#).

Search...

Input group

Jumbotron

List group

Media object

Modal

Navs

Navbar

Pagination

Popovers

Progress

Scrollspy

Alerts

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Bootstrap “spinners” can be used to show the loading state in your projects. They’re built only with HTML and CSS, meaning you don’t need any JavaScript to create them. You will, however, need some custom JavaScript to toggle their visibility. Their appearance, alignment, and sizing can be easily customized with our amazing utility classes.

For accessibility purposes, each loader here includes `role="status"` and a nested `Loading...`.

Border spinner

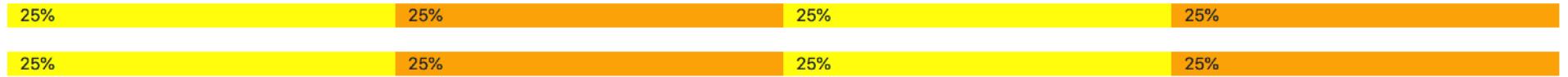
Use the border spinners for a lightweight loading indicator.



Popular Components

- a. Container
- b. Navbar
- c. Glphicons
- d. Grid/Row/Column
- e. Thumbnail
- f. Button
- g. Form
- h. Panel/Wells/Jumbotron
- i. Carousel/Collapse
- j. Tabs
- k. Table
- l. Pagination
- m. Badges/List Group/Cards
- n. Modal/Tooltip/Popover

<https://www.w3schools.com/bootstrap4/default.asp>



John Doe

Some example text some example text. John Doe is an architect and engineer

[See Profile](#)

- First item
- Second item
- Third item

```
<div class="row">
  <div class="col" style="background-color: yellow;">25%</div>
  <div class="col" style="background-color: orange;">25%</div>
  <div class="col" style="background-color: yellow;">25%</div>
  <div class="col" style="background-color: orange;">25%</div>
</div>

</div><!-- end container fluid-->
<div class="card" style="width:20rem; margin:20px 0 24px 0">
  
  <div class="card-body">
    <h4 class="card-title">John Doe</h4>
    <p class="card-text">Some example text some example text. John Doe is an architect and engineer</p>
    <a href="javascript:void(0)" class="btn btn-primary">See Profile</a>
  </div>
</div>

<ul class="list-group">
  <li class="list-group-item">First item</li>
  <li class="list-group-item">Second item</li>
  <li class="list-group-item">Third item</li>
</ul>
```

50%

33.33%

25%

25%

33.33%

50%

33.33%

25%

25%



John Doe

Some example text some example text. John Doe is an architect and engineer

[See Profile](#)

First item

Second item

Third item



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<https://startbootstrap.com/>

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2. <https://bootstraptaste.com/>
3. <http://blacktie.co/>
4. <https://adminlte.io/blog/10-Free-Responsive-Bootstrap-Templates-For-2016>

Free images.

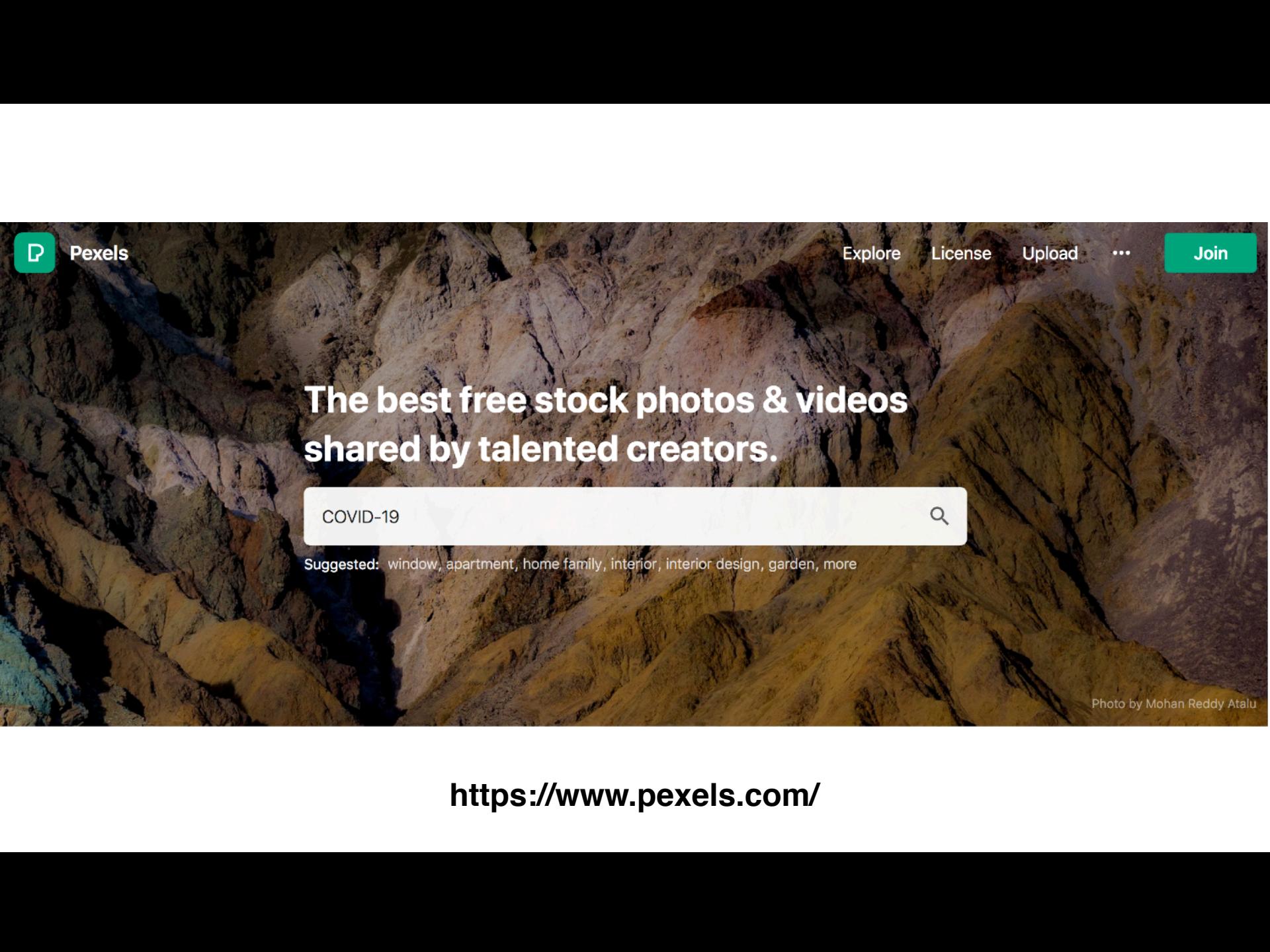
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Thank you for your time!