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Cascading Stylesheets (CSS)

What is CSS

CSS (Cascading Style Sheets) is the code that styles web content. Like HTML, CSS is not a programming language. It's not a markup language either. **CSS is a style sheet language.**

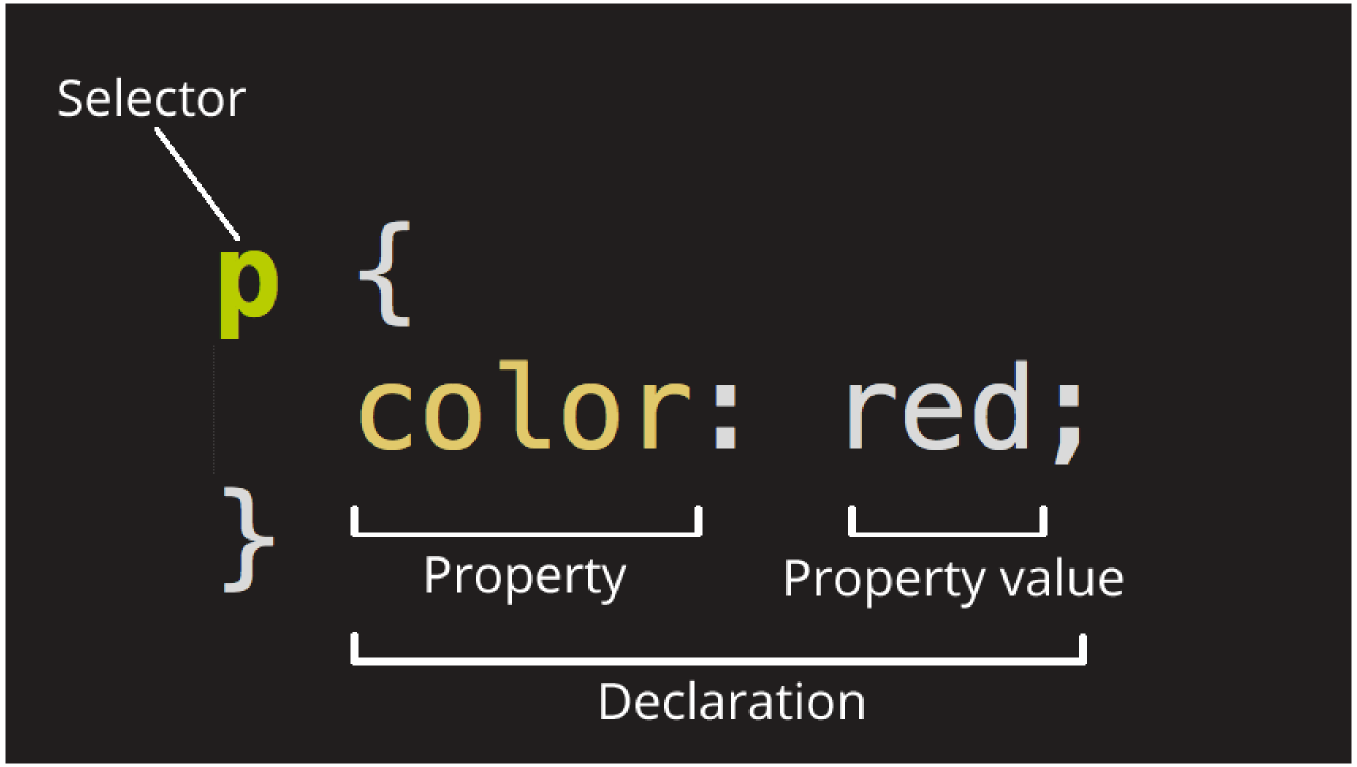
CSS is what you use to selectively style HTML elements. For example, this CSS selects paragraph text, setting the color to red:

CSS can be added to HTML documents in 3 ways:

1. Inline - by using the style attribute inside HTML elements.
2. Internal - by using a <style> element in the <head> section.
3. External - by using a <link> element to link to an external CSS file.

CSS ruleset

```
P {
    color: red;
 }
```



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CSS ruleset

Selector
This is the HTML element name at the start of the ruleset. It defines the element(s) to be styled (in this example, <p> elements). To style a different element, change the selector.

Declaration
This is a single rule like color: red;. It specifies which of the element's properties you want to style.

Properties
These are ways in which you can style an HTML element. (In this example, color is a property of the <p> elements.) In CSS, you choose which properties you want to affect in the rule.

Property value
To the right of the property—after the colon—there is the property value. This chooses one out of many possible appearances for a given property. (For example, there are many color values in addition to red.)

CSS ruleset

Other key parts of the syntax:
Apart from the selector, each ruleset must be wrapped in curly braces. ({})
Within each declaration, you must use a colon (:) to separate the property from its value or values.
Within each ruleset, you must use a semicolon (;) to separate each declaration from the next one.

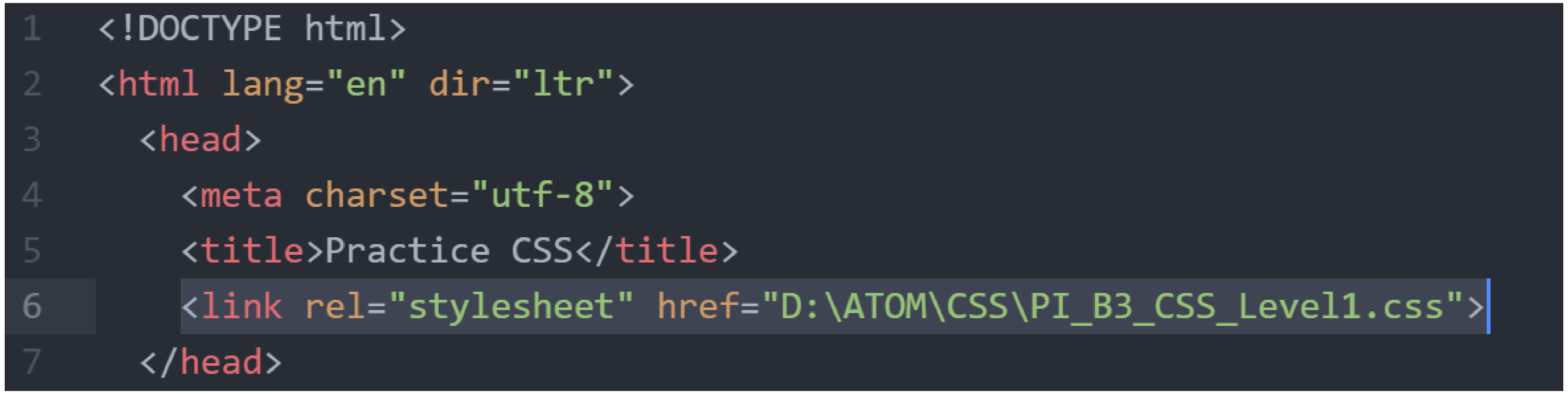
CSS ruleset

To modify multiple property values in one ruleset, write them separated by semicolons

```
p {
  color: red;
  width: 500px;
  border: 1px solid black;
}
```

Applying CSS to HTML

To make the code work, we still need to apply this CSS (above) to your HTML document. Otherwise, the styling won't change the appearance of the HTML.



```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title>Practice CSS</title>
    <link rel="stylesheet" href="D:\ATOM\CSS\PI_B3_CSS_Level1.css">
  </head>
```

To link an external CSS file to your HTML file.
Open your HTML file and insert <link> tag inside your <head> tag
The href element in your link tag should be assigned the file path of the CSS file.

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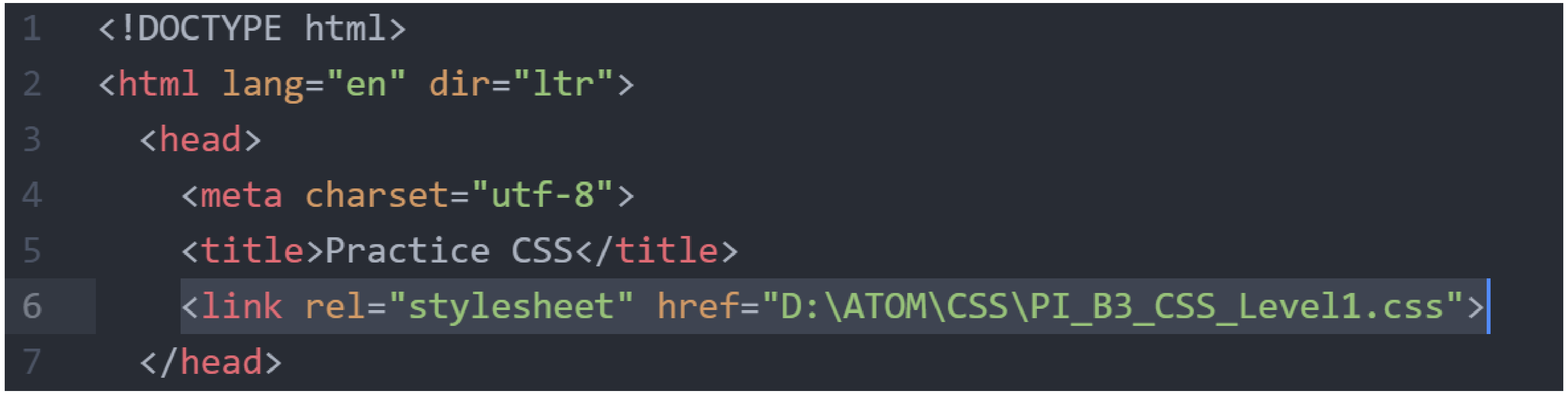
Applying color to HTML elements using CSS

To make the code work, we still need to apply this CSS (above) to your HTML document.
Otherwise, the styling won't change the appearance of the HTML.



```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
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    <link rel="stylesheet" href="D:\ATOM\CSS\PI_B3_CSS_Level1.css">
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To link an external CSS file to your HTML file.
Open your HTML file and insert <link> tag inside your <head> tag
The href element in your link tag should be assigned the file path of the CSS file.

Try it ! - HTML

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title>Practice CSS</title>
    <link rel="stylesheet" href="D:\ATOM\CSS\PI_B3_CSS_Level1.css">
  </head>
  <body>
    <h2>Prime Intuit Finishing School</h2>
    <p>We at Prime Intuite are very passionate about shaping young minds</p>
    <h3>Our Courses Include</h3>
    <ol>
      <li>Personality development</li>
      <li>Statistics</li>
      <li>Python Basics</li>
      <li>Python Libraries like Numpy, Pandas</li>
      <li>Visualization using Python</li>
      <li>Machine Learning</li>
      <li>NLP</li>
      <li>HTML, CSS, JS, Angular</li>
      <li>SQL Level One</li>
      <li>Tableau</li>
    </ol>
```

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Try it ! - HTML

```
<h4> Additional topics like: </h4>
    <ul>
    <li>Advance Excel</li>
    <li>Cloud Concepts</li>
    <li>Data warehouse</li>
    <li>SDLC</li>
    <li>Basic JAVA</li>
    <li>Guest lectures from Industry experts</li>
    </ul>
    <p>
     <div class="prompt">
    We have left no stone unturned to give you <span id="spn1">the best platform, to be job
ready</span> for a great carrer in IT industry</p>
    </div>
  </body>
</html>
```

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Try it ! CSS

```
/* syntax for CSS is :
selector{
  property: value;
} */
body{
  background: rgb(184, 186, 177)
}
h2{
  color: purple;
}

ol{
  color:rgb(197, 245, 66);
}

p{
  color: #1dc487;
}
h3{
  color: rgba(181, 42, 90, 0.5);
}
ul{
  border-color: red;
  border-width: 2px;
  border-style: solid;
}
.prompt{
  color: rgb(42, 151, 181);
  background-color: rgb(195, 230,
23);
}
#spn1{
  background-color: lightgrey;
}
```

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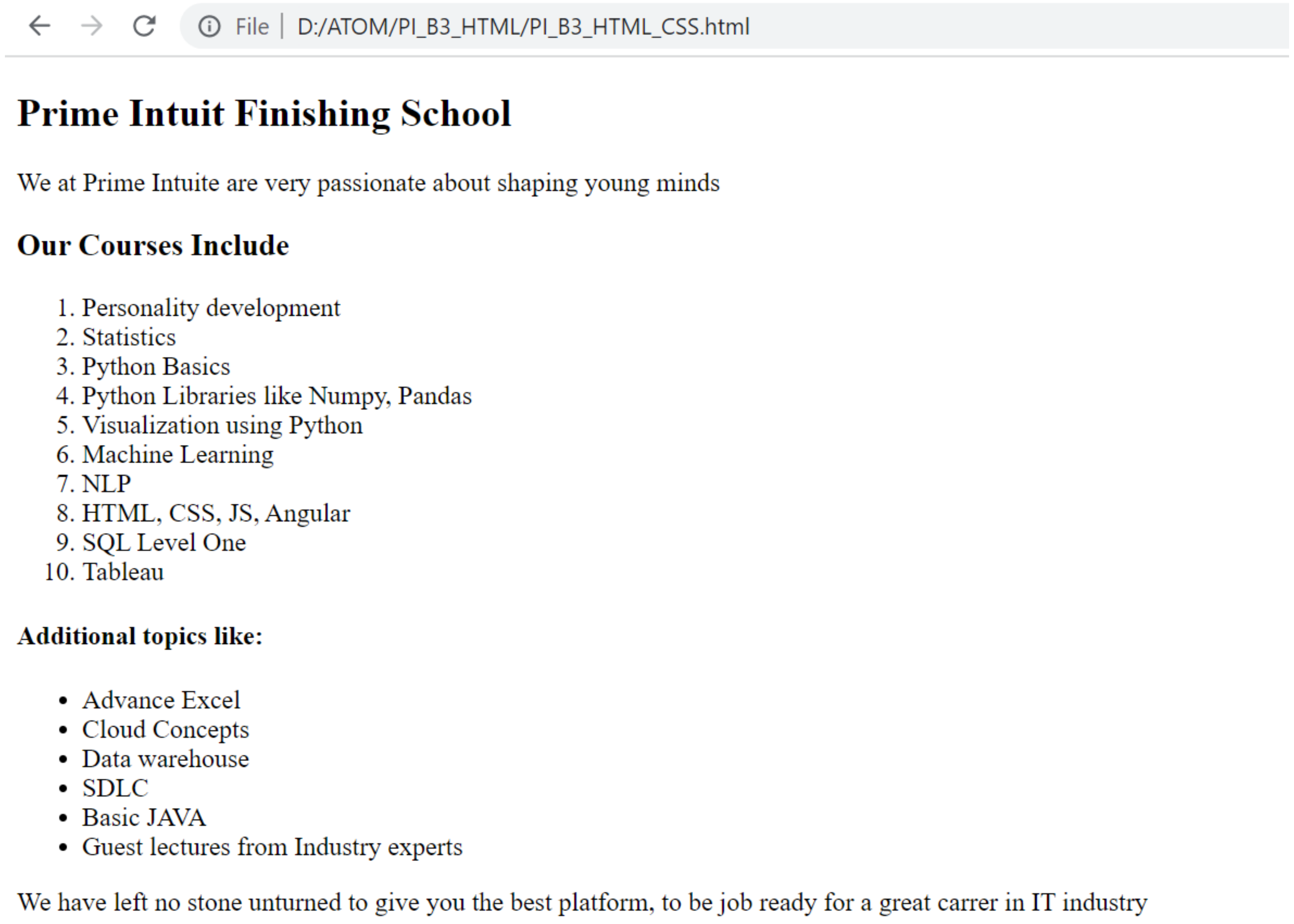
Your HTML Page



File | D:/ATOM/PI_B3_HTML/PI_B3_HTML_CSS.html

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Our Courses Include

1. Personality development
2. Statistics
3. Python Basics
4. Python Libraries like Numpy, Pandas
5. Visualization using Python
6. Machine Learning
7. NLP
8. HTML, CSS, JS, Angular
9. SQL Level One
10. Tableau

Additional topics like:

- Advance Excel
- Cloud Concepts
- Data warehouse
- SDLC
- Basic JAVA
- Guest lectures from Industry experts

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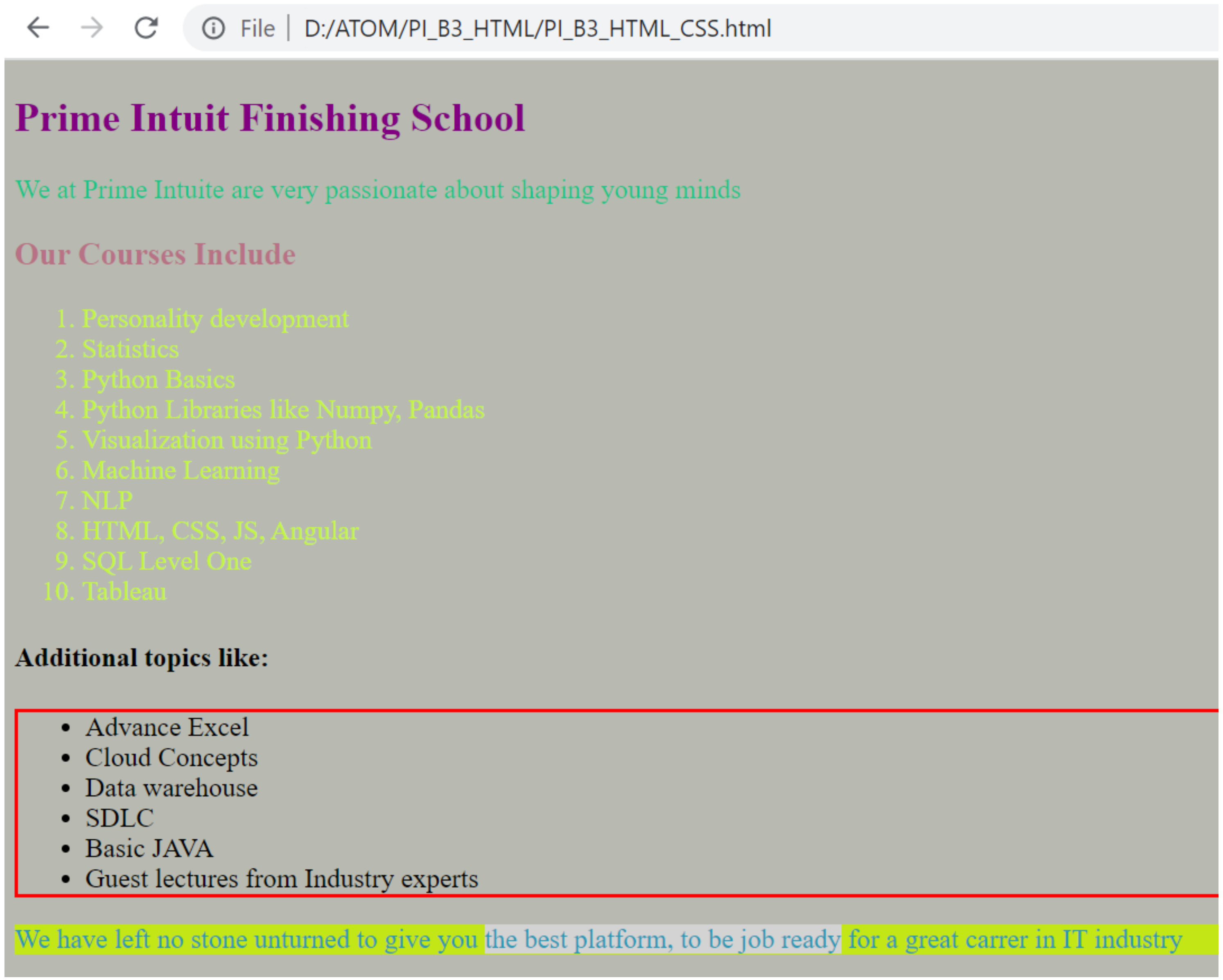
Your HTML Page after applying CSS


File | D:/ATOM/PI_B3_HTML/PI_B3_HTML_CSS.html

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Selecting multiple elements

We can also select multiple elements and apply a single ruleset to all of them. Separate multiple selectors by commas.

```
p, li, h1 {
  color: red;
}.
```

CSS class selector

Selecting all HTML elements with class="center" will be red and center-aligned:

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

Selecting only specific HTML elements should be affected by a class, example <p>:

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

CSS Universal Selector

CSS rule below will affect every HTML element on the page:

```
* {
  text-align: center;
  color: blue;
}
```

CSS Grouping Selector

The grouping selector selects all the HTML elements with the same style definitions.

```css
h1, h2, p {
  text-align: center;
  color: red;
}
```

Summary Selectors

Selector	Description
# id	Select the element with id
.class	Select all elements with class
element.class	Select only element with specified class
*	Select all elements
Element	Selects the specified element
Elements, elements	Selects multiple elements

Ways to Insert CSS

- There are three ways of inserting a style sheet:
- External CSS
- Internal CSS
- Inline CSS

External CSS

External: With an external style sheet, you can change the look of an entire website by changing just one file!

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

Internal CSS

Internal: An internal style sheet may be used if one single HTML page has a unique style.

The internal style is defined inside the <style> element, inside the head section.

```
<head>
<style>
body {
  background-color: linen;
}

h1 {
  color: maroon;
  margin-left: 40px;
}
</style>
</head>
```

Inline CSS

Inline: An inline style may be used to apply a unique style for a single element.

To use inline styles, add the style attribute to the relevant element. The style attribute can contain any CSS property.

```
<h1 style="color:blue;text-align:center;">This is a heading</h1>
<p style="color:red;">This is a paragraph.</p>
```

Cascading Order

Cascade, Specificity, and Inheritance

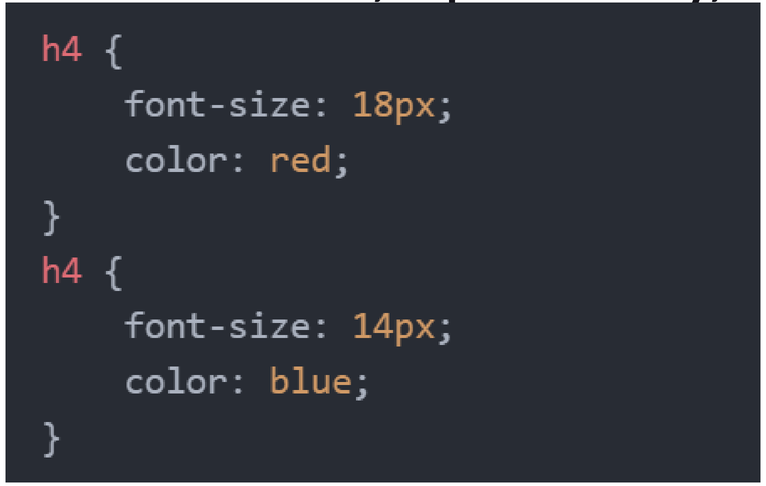
Stylesheets **cascade** — at a very simple level, this means that the order of CSS rules matters; when two rules apply that have equal specificity, the one that comes last in the CSS is the one that will be used.

Specificity is how the browser decides which rule applies if multiple rules have different selectors, but could still apply to the same element. It is basically a measure of how specific a selector's selection will be:
•An element selector is less specific — it will select all elements of that type that appear on a page — so will get a lower score.
•A class selector is more specific — it will select only the elements on a page that have a specific class attribute value — so will get a higher score.

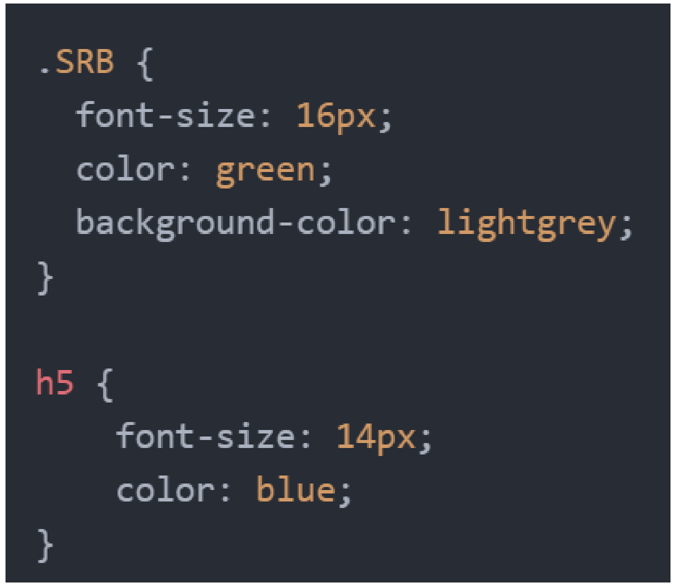
Inheritance — some CSS property values set on parent elements are inherited by their child elements, and some aren't.

Cascading Order

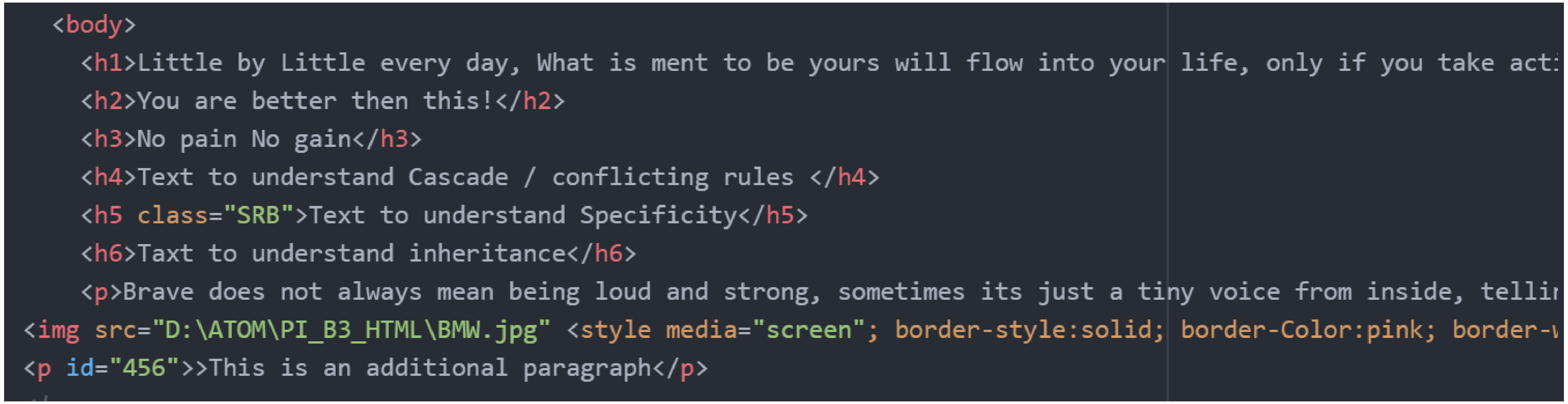
Cascade, Specificity, and Inheritance



```
h4 {
    font-size: 18px;
    color: red;
}
h4 {
    font-size: 14px;
    color: blue;
}
```



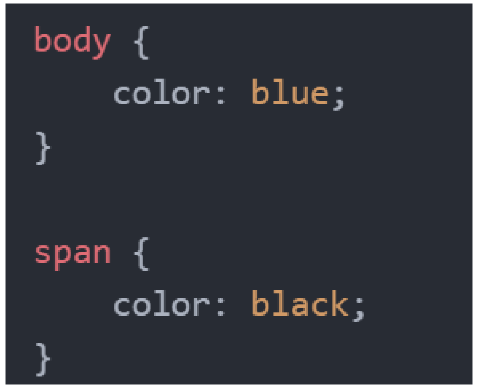
```
.SRB {
  font-size: 16px;
  color: green;
  background-color: lightgrey;
}

h5 {
    font-size: 14px;
    color: blue;
}
```



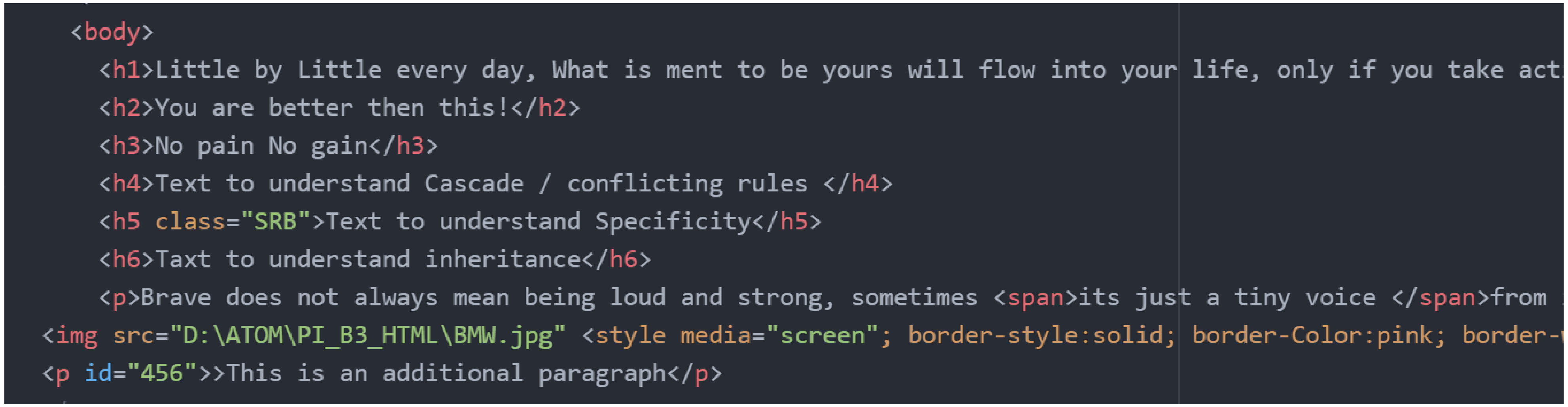
```
  <body>
    <h1>Little by Little every day, What is ment to be yours will flow into your life, only if you take act
    <h2>You are better then this!</h2>
    <h3>No pain No gain</h3>
    <h4>Text to understand Cascade / conflicting rules </h4>
    <h5 class="SRB">Text to understand Specificity</h5>
    <h6>Taxt to understand inheritance</h6>
    <p>Brave does not always mean being loud and strong, sometimes its just a tiny voice from inside, telli
<img src="D:\ATOM\PI_B3_HTML\BMW.jpg" <style media="screen"; border-style:solid; border-Color:pink; border-
<p id="456">>This is an additional paragraph</p>
```

Cascading Order

Cascade, Specificity, and Inheritance



```css
body {
    color: blue;
}

span {
    color: black;
}
```



```html
  <body>
    <h1>Little by Little every day, What is ment to be yours will flow into your life, only if you take act
    <h2>You are better then this!</h2>
    <h3>No pain No gain</h3>
    <h4>Text to understand Cascade / conflicting rules </h4>
    <h5 class="SRB">Text to understand Specificity</h5>
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<p id="456">>This is an additional paragraph</p>
```
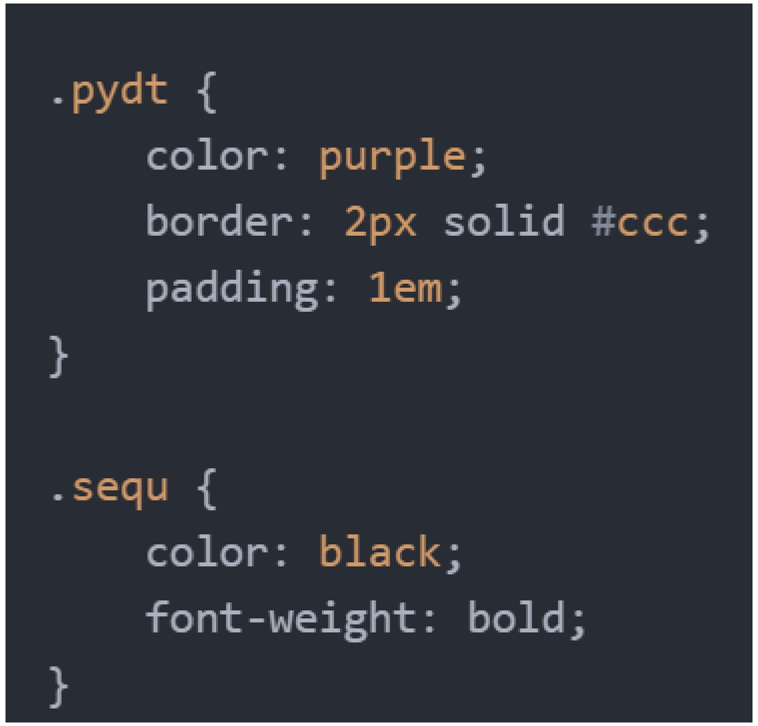
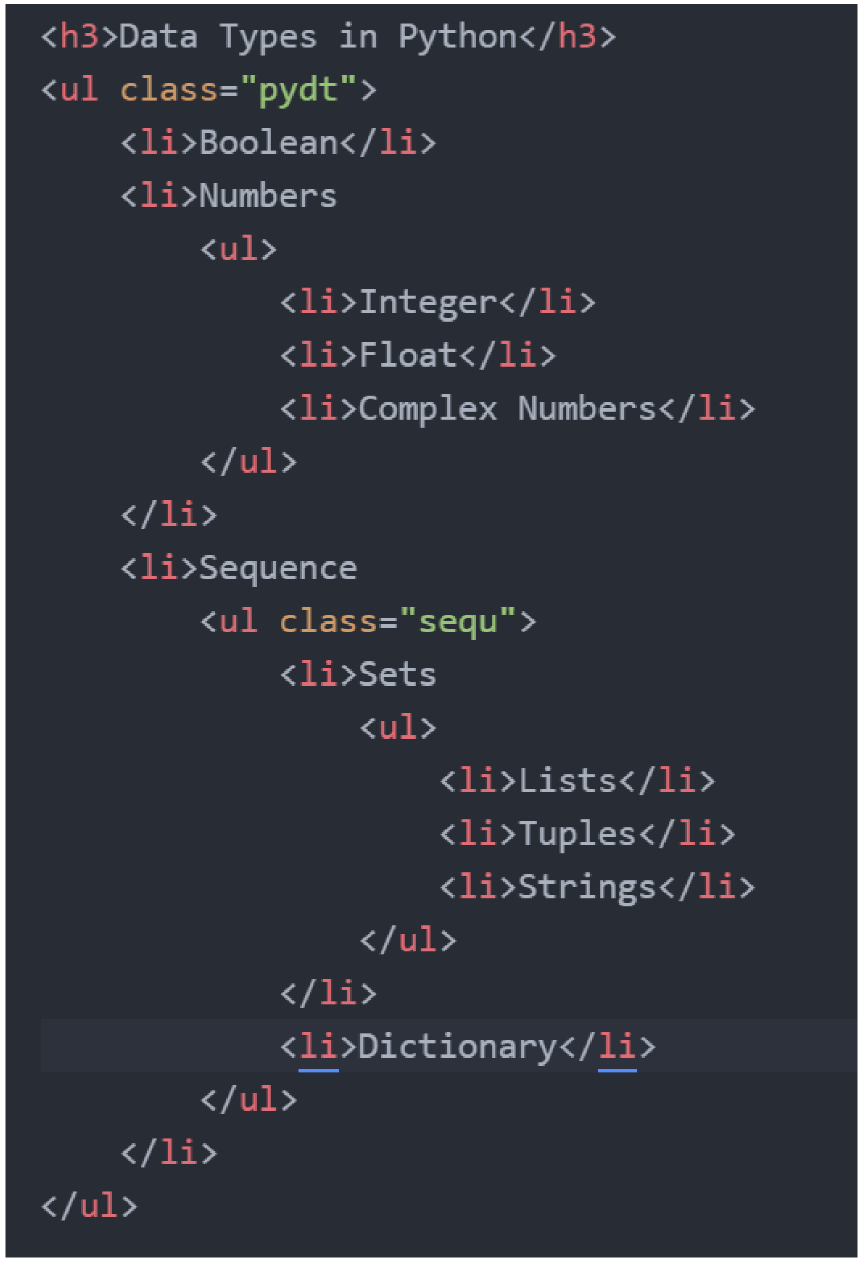

Cascading Order

Cascade, Specificity, and Inheritance



```css
.pydt {
    color: purple;
    border: 2px solid #ccc;
    padding: 1em;
}

.sequ {
    color: black;
    font-weight: bold;
}
```



```html
<h3>Data Types in Python</h3>
<ul class="pydt">
    <li>Boolean</li>
    <li>Numbers
        <ul>
            <li>Integer</li>
            <li>Float</li>
            <li>Complex Numbers</li>
        </ul>
    </li>
    <li>Sequence
        <ul class="sequ">
            <li>Sets
                <ul>
                    <li>Lists</li>
                    <li>Tuples</li>
                    <li>Strings</li>
                </ul>
            </li>
            <li>Dictionary</li>
        </ul>
    </li>
</ul>
```

The box model

Everything in CSS has a box around it, and understanding these boxes is key to being able to create layouts with CSS, or to align items with other items.

Block and inline boxes

Characteristics refer to how the box behaves in terms of page flow and in relation to other boxes on the page. Boxes also have an **inner display type** and an **outer display type**.

A box with outer display type as **Block :**

- will break into a new
- will extend in the inline direction to fill the space available in its container. In most cases this means that the box will become as wide as its container, filling up 100% of the space available.
- width and height properties are supported.
- Padding, margin and border will cause other elements to be pushed away from the box.

Some HTML elements, such as <h1> and <p>, use block as their outer display type by default.

Block and inline boxes

A box with outer display type as **Inline :**

- will not break into a new
- Vertical padding, margins, and borders will apply but will not cause other inline boxes to move away from the box.
- width and height properties are not supported.
- Horizontal padding, margins, and borders will apply and will cause other inline boxes to move away from the box.

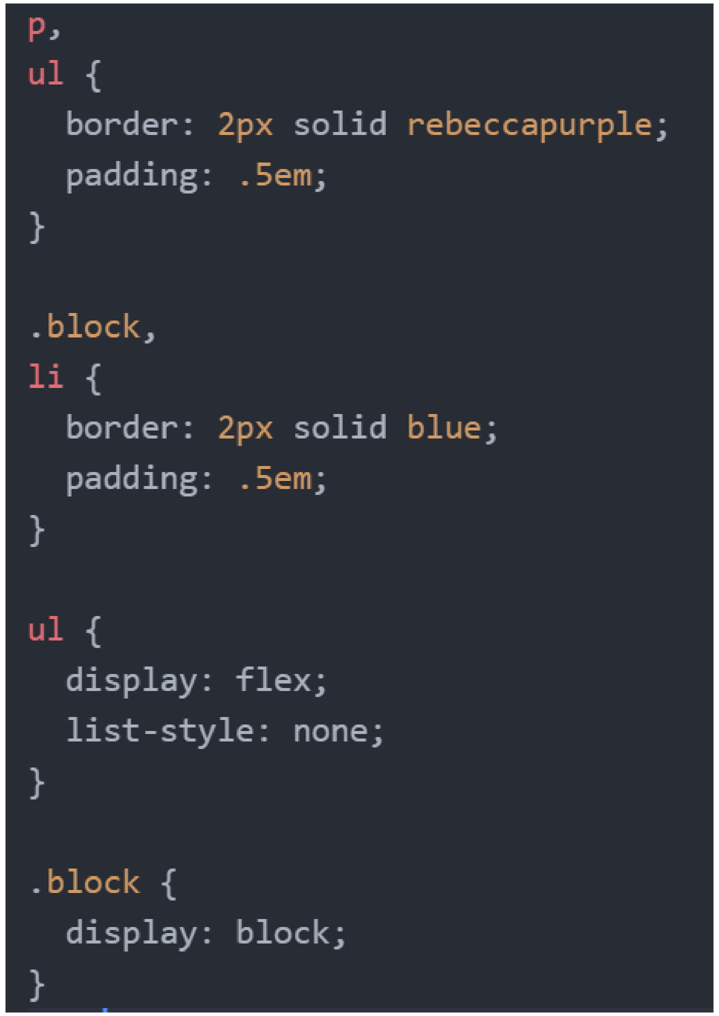
Some HTML elements, such as <a>, <span>, <em> and <strong> use inline as their outer display type by default.

Inner and Outer Display types

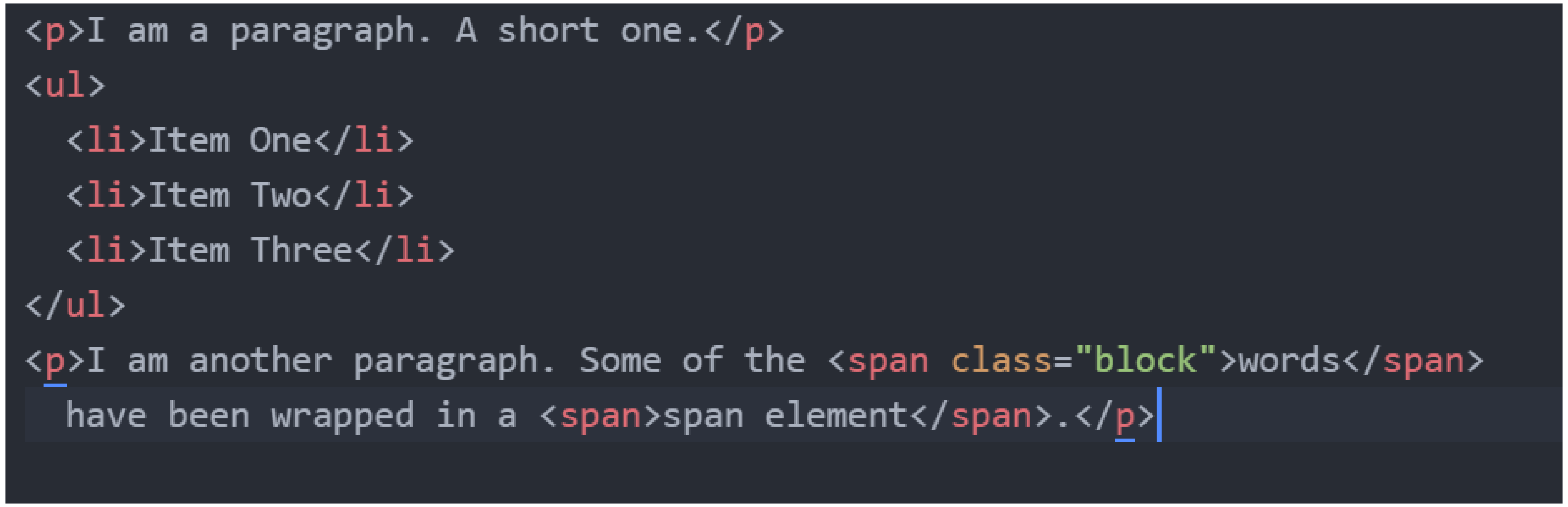
Inner Display types: dictates how elements inside that box are laid out. By default, the elements inside a box are laid out in normal flow, which means that they behave just like any other block and inline elements.

Outer Display types: dictates whether the box is block or inline.

Examples of different display types

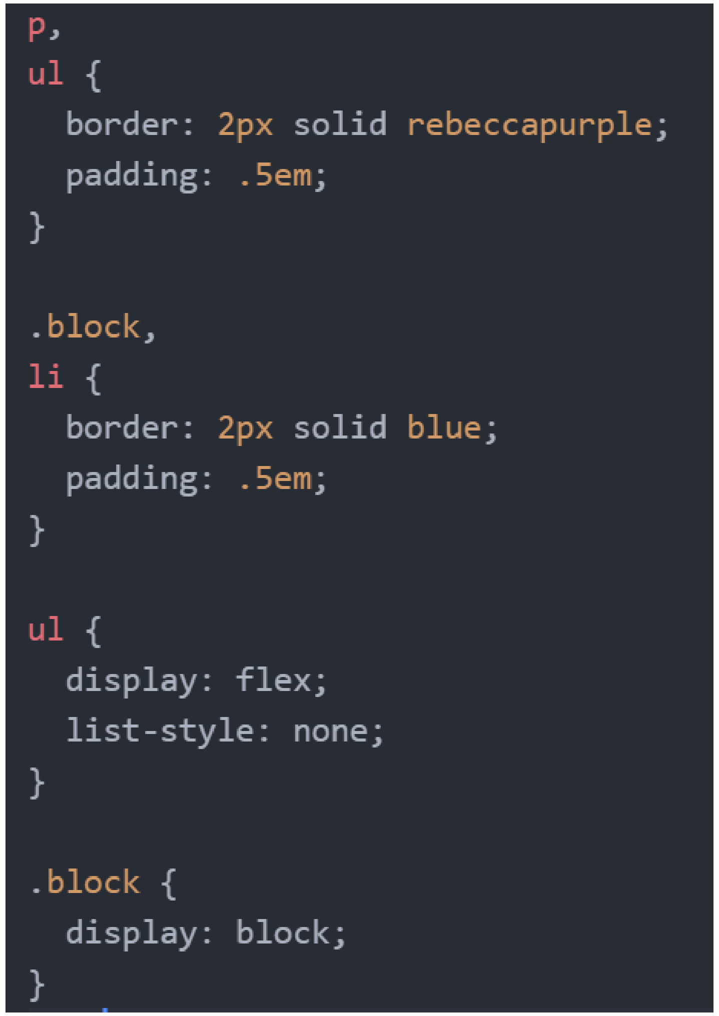


```css
p,
ul {
  border: 2px solid rebeccapurple;
  padding: .5em;
}

.block,
li {
  border: 2px solid blue;
  padding: .5em;
}

ul {
  display: flex;
  list-style: none;
}

.block {
  display: block;
}
```

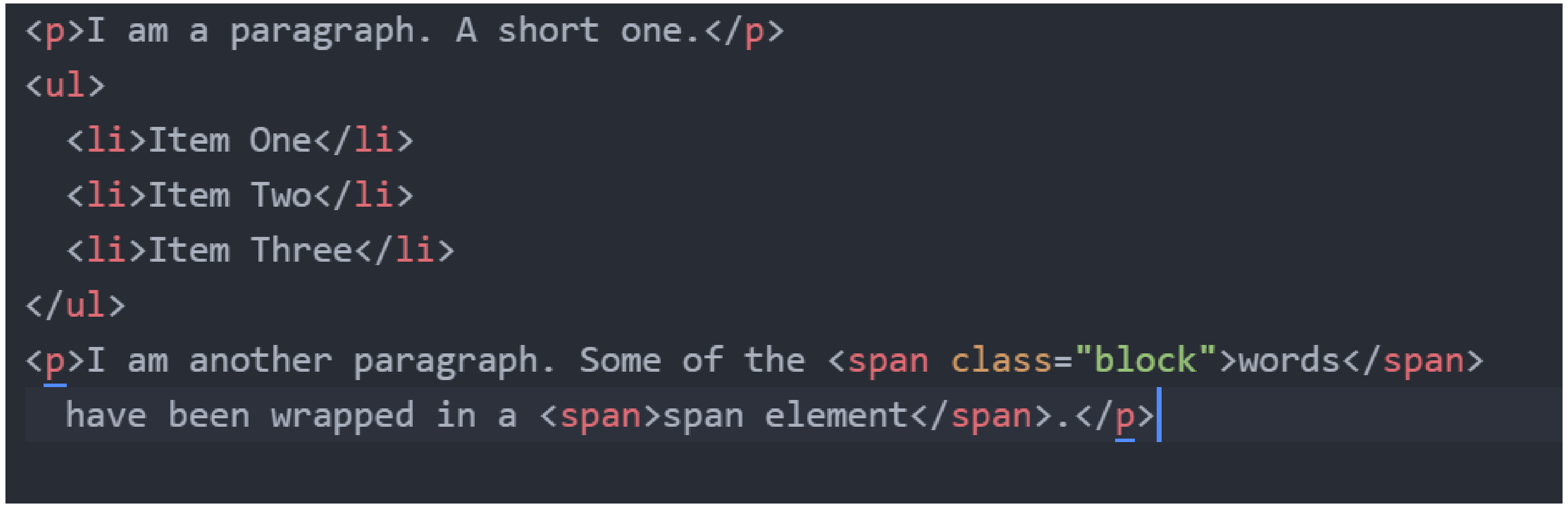


```html
<p>I am a paragraph. A short one.</p>
<ul>
  <li>Item One</li>
  <li>Item Two</li>
  <li>Item Three</li>
</ul>
<p>I am another paragraph. Some of the <span class="block">words</span>
  have been wrapped in a <span>span element</span>.</p>
```

Examples of different display types

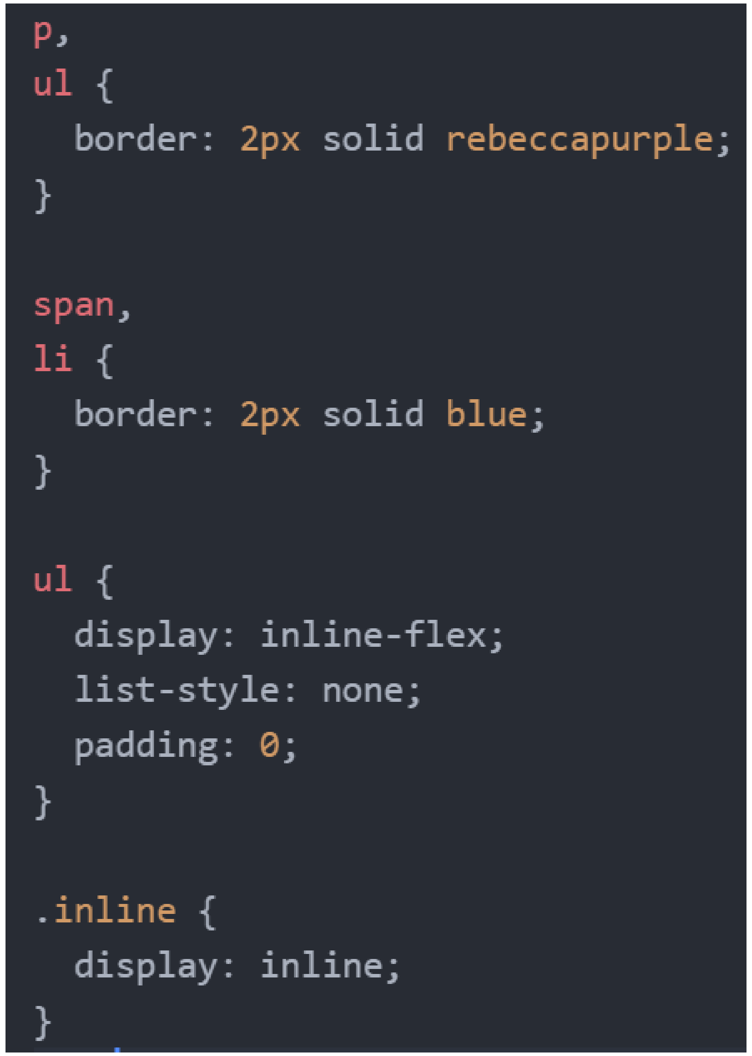


```css
p,
ul {
  border: 2px solid rebeccapurple;
  padding: .5em;
}

.block,
li {
  border: 2px solid blue;
  padding: .5em;
}

ul {
  display: flex;
  list-style: none;
}

.block {
  display: block;
}
```

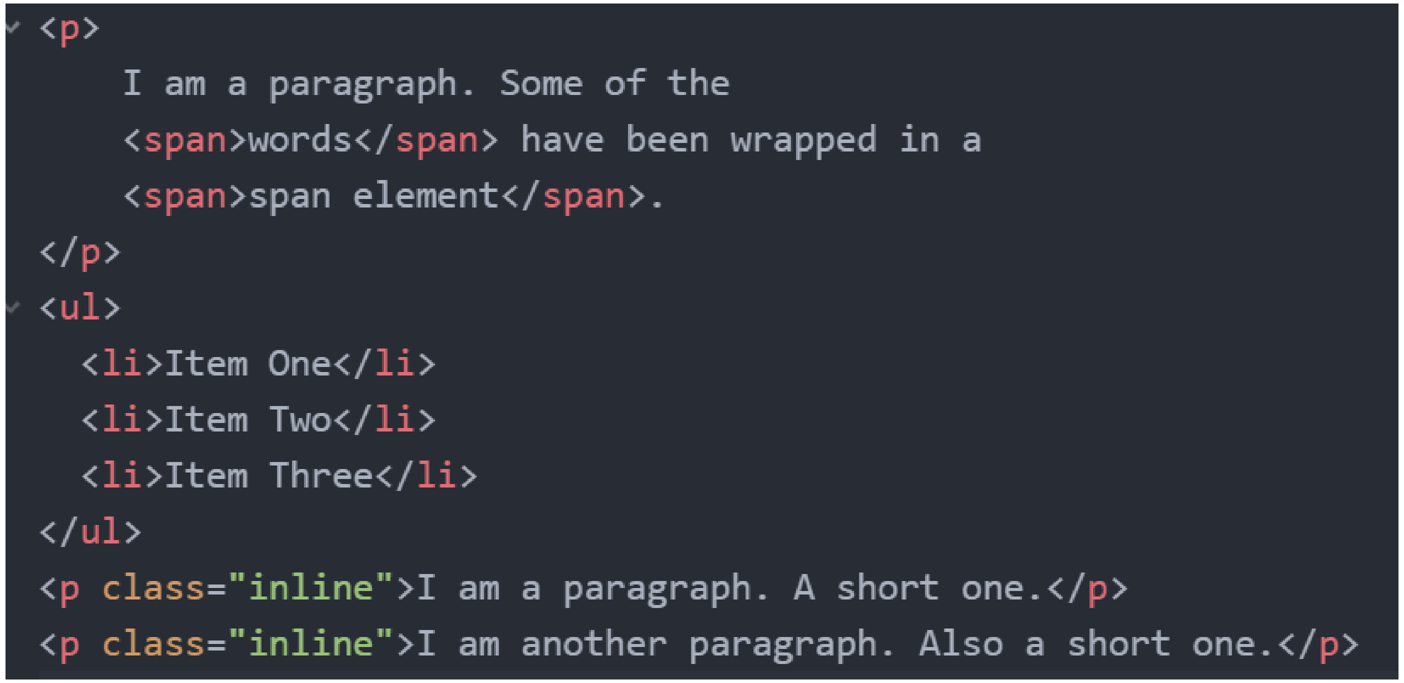


```html
<p>I am a paragraph. A short one.</p>
<ul>
  <li>Item One</li>
  <li>Item Two</li>
  <li>Item Three</li>
</ul>
<p>I am another paragraph. Some of the <span class="block">words</span>
  have been wrapped in a <span>span element</span>.</p>
```

Examples of different display types



```css
p,
ul {
  border: 2px solid rebeccapurple;
}

span,
li {
  border: 2px solid blue;
}

ul {
  display: inline-flex;
  list-style: none;
  padding: 0;
}

.inline {
  display: inline;
}
```



```html
<p>
    I am a paragraph. Some of the
    <span>words</span> have been wrapped in a
    <span>span element</span>.
</p>
<ul>
  <li>Item One</li>
  <li>Item Two</li>
  <li>Item Three</li>
</ul>
<p class="inline">I am a paragraph. A short one.</p>
<p class="inline">I am another paragraph. Also a short one.</p>
```

CSS Box Model

The CSS box model as a whole applies to block boxes. Inline boxes use just *some* of the behavior defined in the box model. The model defines how the different parts of a box — margin, border, padding, and content — work together to create a box that you can see on a page. To add some additional complexity, there is a standard and an alternate box model.

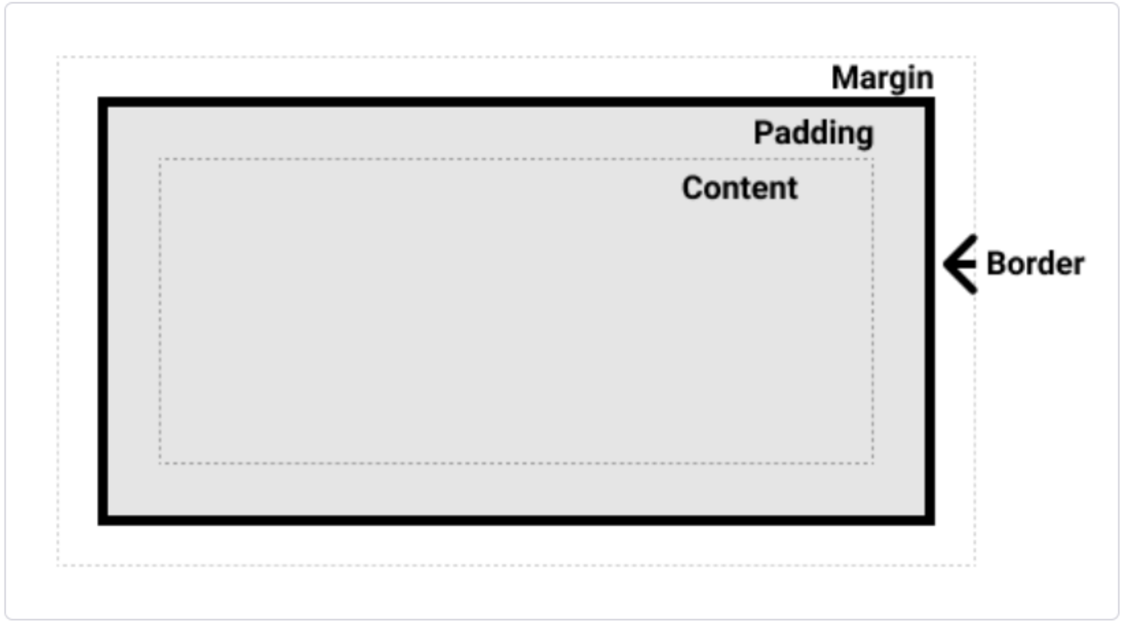
Parts of a box

Content box: The area where your content is displayed, which can be sized using properties like width and height.

Padding box: The padding sits around the content as white space; its size can be controlled using padding and related properties.

Border box: The border box wraps the content and any padding. Its size and style can be controlled using border and related properties.

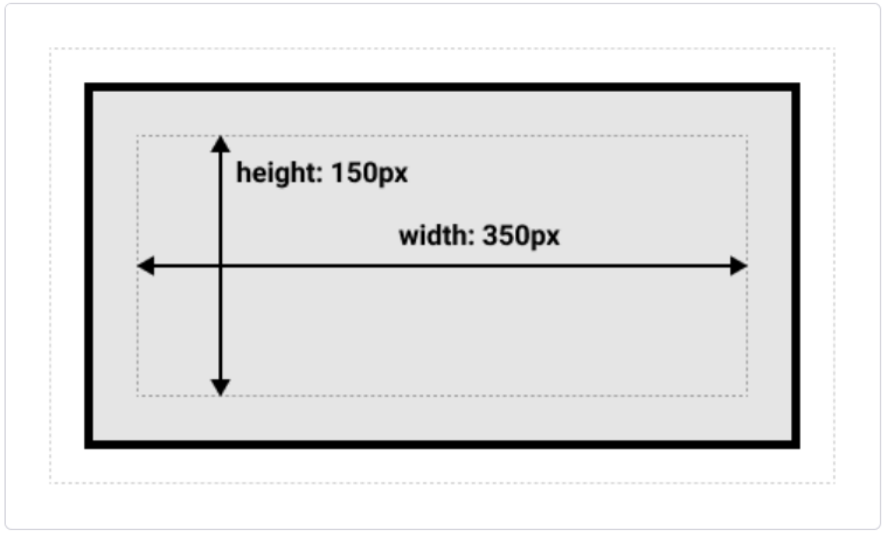
Margin box: The margin is the outermost layer, wrapping the content, padding, and border as whitespace between this box and other elements. Its size can be controlled using margin and related properties.



The Standard Box Model

In the standard box model, if you give a box a width and a height attribute, this defines the width and height of the content box. Any padding and border is then added to that width and height to get the total size taken up by the box.

```
.box {
  width: 350px;
  height: 150px;
  margin: 10px;
  padding: 25px;
  border: 5px solid black;
}
```



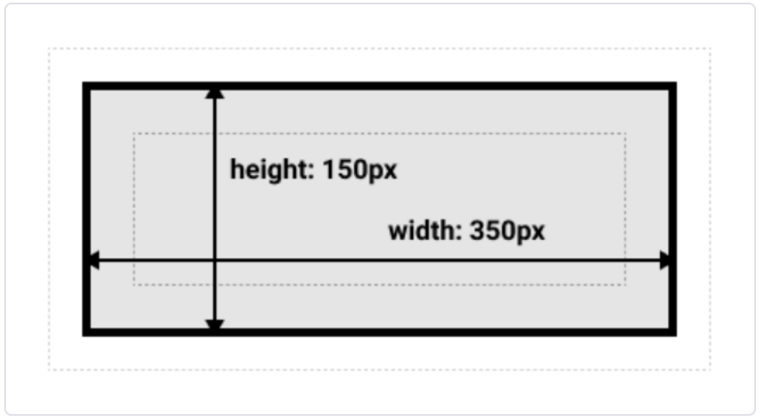
The actual space taken up by the box will be 410px wide (350 + 25 + 25 + 5 + 5) and 210px high (150 + 25 + 25 + 5 + 5).

The Alternative Box Model

In the Alternative box model, Any width is the width of the visible box on the page, therefore the content area width is that width minus the width for the padding and border.

```css
.box {
  width: 350px;
  height: 150px;
  margin: 10px;
  padding: 25px;
  border: 5px solid black;
}
```

width = 350px, height = 150px



```css
.box {
  box-sizing: border-box;
}
```

```css
html {
  box-sizing: border-box;
}
*, *::before, *::after {
  box-sizing: inherit;
}
```

By default, browsers use the standard box model. If you want to turn on the alternative model for an element, you do so by setting box-sizing: border-box on it. By doing this, you are telling the browser to use the border box

Compairing both box models

```
.box {
  border: 5px solid rebeccapurple;
  background-color: lightgray;
  padding: 40px;
  margin: 40px;
  width: 300px;
  height: 150px;
}

.alternate {
  box-sizing: border-box;
}
```

Both have a class of .box, which gives them the same width, height, margin, border, and padding. The only difference is that the second box has been set to use the alternative box model.

```
<div class="box">I use the standard box model.</div>
<div class="box alternate">I use the alternate box model.</div>
```

Margins

The margin is an invisible space around your box. It pushes other elements away from the box. Margins can have positive or negative values. Setting a negative margin on one side of your box can cause it to overlap other things on the page.

We can control all margins of an element at once using the margin property, or each side individually using the equivalent longhand properties:

margin-top

margin-right

margin-bottom

margin-left

```
.box {
  margin-top: -40px;
  margin-right: 30px;
  margin-bottom: 40px;
  margin-left: 4em;
}
```

```
<div class="container">
  <div class="box">Change my margin.</div>
</div>
```

Borders

The border is drawn between the margin and the padding of a box. If you are using the standard box model, the size of the border is added to the width and height of the box. If you are using the alternative box model then the size of the border makes the content box smaller as it takes up some of that available width and height.

You can set the width, style, or color of all four borders at once using the border property.

To set the properties of each side individually, you can use:

border-top

border-right

border-bottom

border-left

Borders

To set the width, style, or color of all sides, use the following:

border-width

border-style

border-color

To set the width, style, or color of a single side, you can use one of the more granular longhand properties:

border-top-width

border-top-style

border-top-color

Borders

border-right-width
border-right-style
border-right-color
border-bottom-width
border-bottom-style
border-bottom-color
border-left-width
border-left-style
border-left-color

```
.container {
  border-top: 5px dotted green;
  border-right: 1px solid black;
  border-bottom: 20px double rgb(23,45,145);
}

.box {
  border: 1px solid #333333;
  border-top-style: dotted;
  border-right-width: 20px;
  border-bottom-color: hotpink;
}
```

```
<div class="container">
  <div class="box">Change my borders.</div>
</div>
```

Padding

The padding sits between the border and the content area. Unlike margins, you cannot have negative amounts of padding, so the value must be 0 or a positive value. Padding is typically used to push the content away from the border. Any background applied to your element will display behind the padding.

We can control the padding on all sides of an element using the padding property, or on each side individually using the equivalent longhand properties:

padding-top

padding-right

padding-bottom

padding-left

Padding

```css
.box {
  padding-top: 0;
  padding-right: 30px;
  padding-bottom: 40px;
  padding-left: 4em;
}

.container {
  padding: 20px;
}
```

```html
<div class="container">
  <div class="box">Change my padding.</div>
</div>
```

Backgrounds and borders

The CSS background property is a shorthand for a number of background longhand properties.

Background colors

The background-color property defines the background color on any element in CSS. The property accepts any valid <color>. A background-color extends underneath the content and padding box of the element.

```
.box {
  background-color: #567895;
}

h2 {
  background-color: black;
  color: white;
}
span {
  background-color: rgba(255,255,255,.5);
}
```

```
<div class="box">
  <h2>Background Colors</h2>
  <p>Try changing the background <span>colors</span>.</p>
</div>
```

Backgrounds and borders

Background images

The background-image property enables the display of an image in the background of an element.

```
.a {
  background-image: url(balloons.jpg);
}

.b {
  background-image: url(star.png);
}
```

```
<div class="wrapper">
  <div class="box a"></div>
  <div class="box b"></div>
</div>
```

Backgrounds and borders

Controlling background-repeat

The background-repeat property is used to control the tiling behavior of images. The available values are:

no-repeat — stop the background from repeating altogether.

repeat-x — repeat horizontally.

repeat-y — repeat vertically.

repeat — the default; repeat in both directions.

```
.box {
  background-image: url(star.png);
  background-repeat: no-repeat;
}
```

```
<div class="box"></div>
```

Backgrounds and borders

Sizing the background-image

We can use the background-size property, which can take length or percentage values, to size the image to fit inside the background.

You can also use keywords:

cover — the browser will make the image just large enough so that it completely covers the box area while still retaining its aspect ratio. In this case, part of the image is likely to end up outside the box.

contain — the browser will make the image the right size to fit inside the box. In this case, you may end up with gaps on either side or on the top and bottom of the image, if the aspect ratio of the image is different from that of the box.

```css
.box {
  background-image: url(balloons.jpg);
  background-repeat: no-repeat;
  background-size: 100px 10em;
}
```

```html
<div class="box"></div>
```

Backgrounds and borders

Positioning the background image

The background-position property allows you to choose the position in which the background image appears on the box it is applied to. This uses a coordinate system in which the top-left-hand corner of the box is (0,0), and the box is positioned along the horizontal (x) and vertical (y) axes.

```css
.box {
  background-image: url(star.png);
  background-repeat: no-repeat;
  background-position: top center;
}
```

The most common background-position values take two individual values — a horizontal value followed by a vertical value.

```css
.box {
  background-image: url(star.png);
  background-repeat: no-repeat;
  background-position: 20px 10%;
}
```

You can use keywords such as top and right

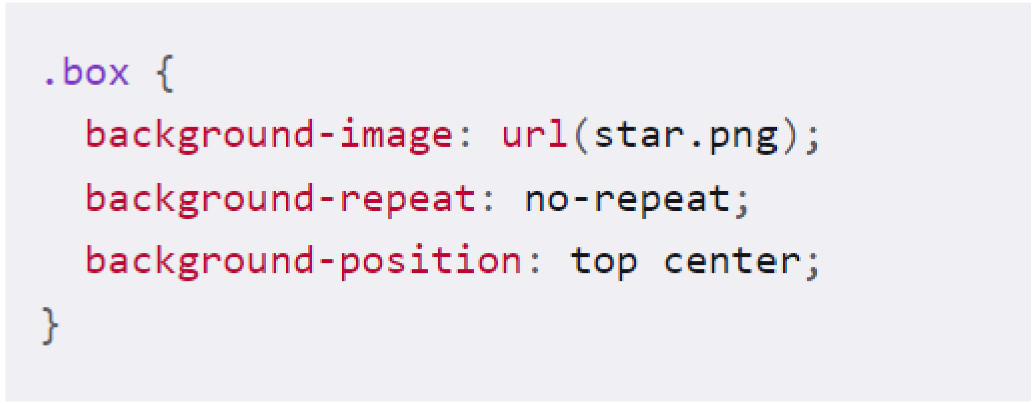
Backgrounds and borders

Positioning the background image

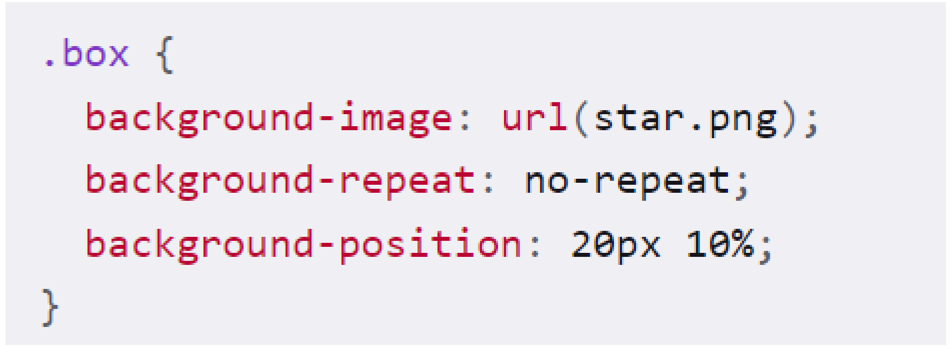
The background-position property allows you to choose the position in which the background image appears on the box it is applied to. This uses a coordinate system in which the top-left-hand corner of the box is (0,0), and the box is positioned along the horizontal (x) and vertical (y) axes.

The most common background-position values take two individual values — a horizontal value followed by a vertical value.

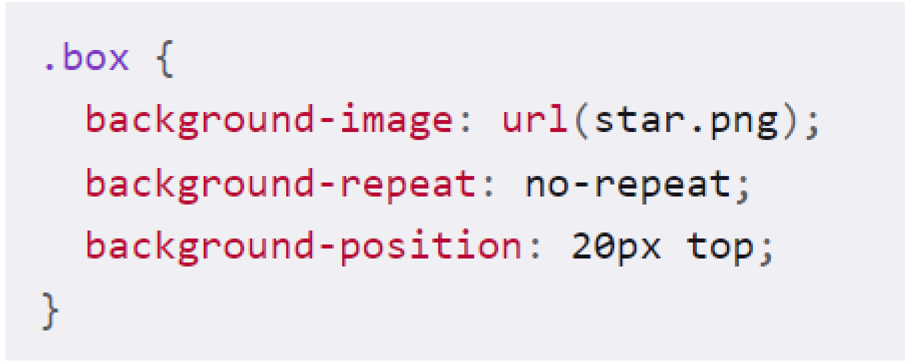
You can use keywords such as top and right



```css
.box {
  background-image: url(star.png);
  background-repeat: no-repeat;
  background-position: top center;
}
```



```css
.box {
  background-image: url(star.png);
  background-repeat: no-repeat;
  background-position: 20px 10%;
}
```



```css
.box {
  background-image: url(star.png);
  background-repeat: no-repeat;
  background-position: 20px top;
}
```

Backgrounds and borders

Gradient background

A gradient — when used for a background — acts just like an image and is also set by using the background-image property.

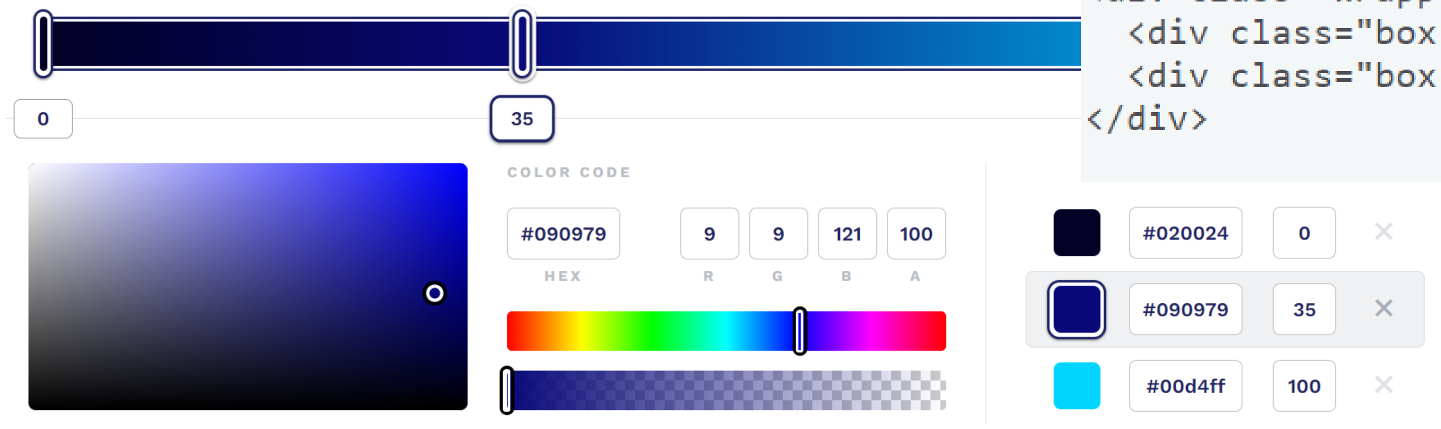
We can use one of the many CSS Gradient Generators available on the web.

Eg: https://cssgradient.io/

```
.a {
  background-image: linear-gradient(105deg, rgba(0,249,255,1)
39%, rgba(51,56,57,1) 96%);
}

.b {
  background-image: radial-gradient(circle, rgba(0,249,255,1)
39%, rgba(51,56,57,1) 96%);
  background-size: 100px 50px;
}
```

```
<div class="wrapper">
  <div class="box a"></div>
  <div class="box b"></div>
</div>
```



0 35

COLOR CODE

HEX	R	G	B	A
#090979	9	9	121	100

#020024	0	×
#090979	35	×
#00d4ff	100	×

Backgrounds and borders

Gradient background

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We can use one of the many CSS Gradient Generators available on the web.

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39%, rgba(51,56,57,1) 96%);
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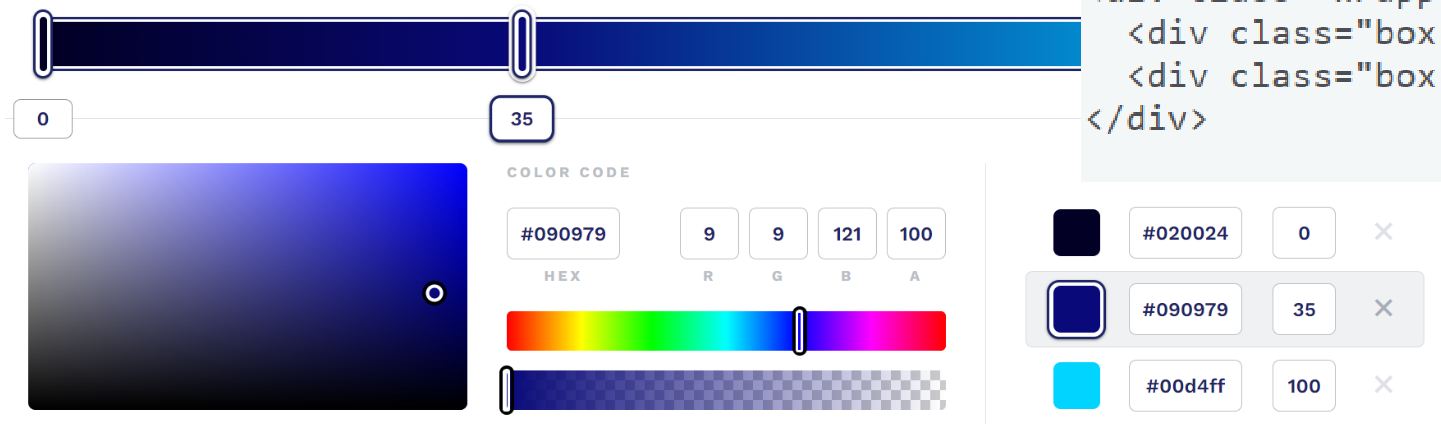
39%, rgba(51,56,57,1) 96%);
  background-size: 100px 50px;
}
```

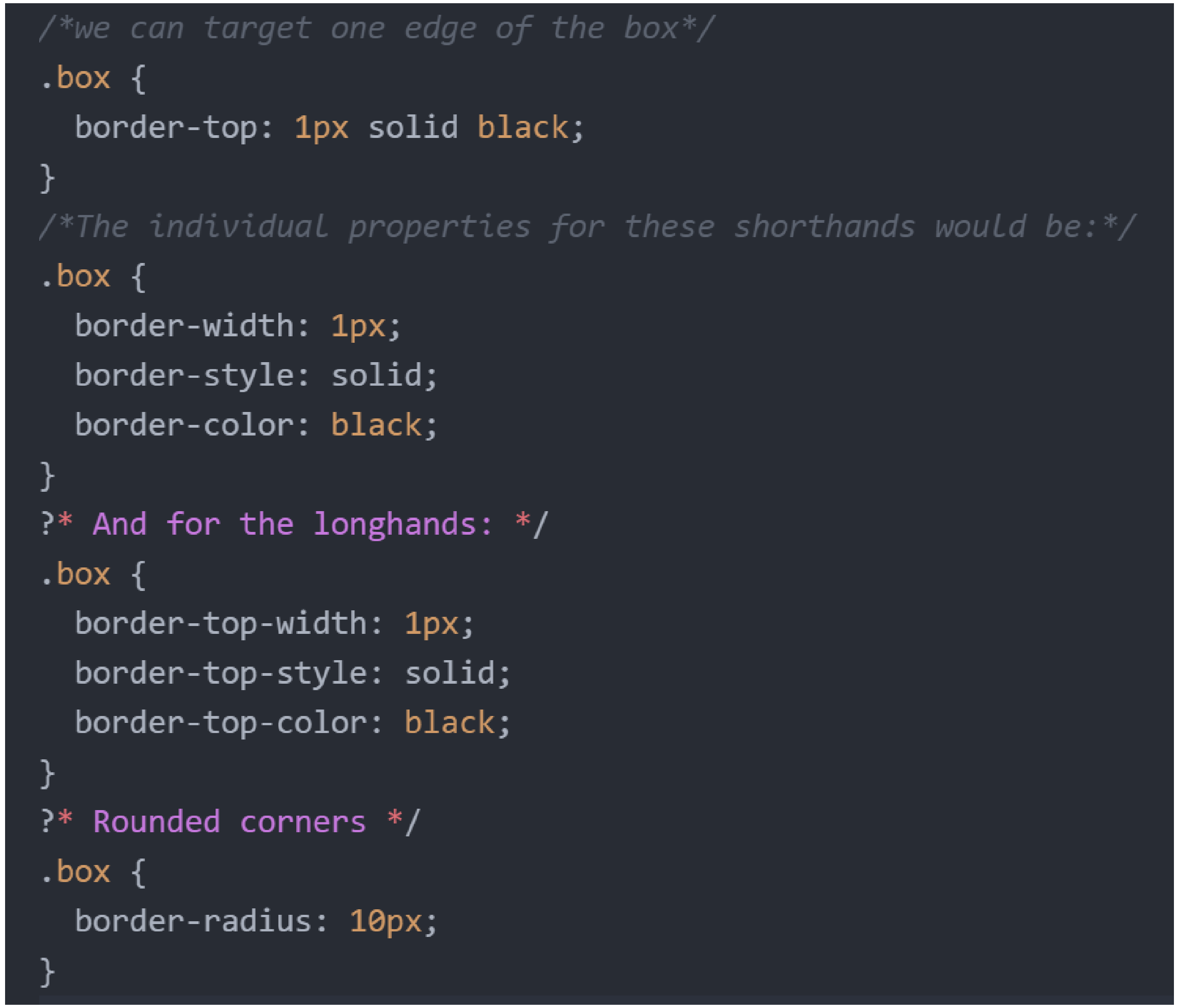
```
<div class="wrapper">
  <div class="box a"></div>
  <div class="box b"></div>
</div>
```



#090979		
9	9	121
100		

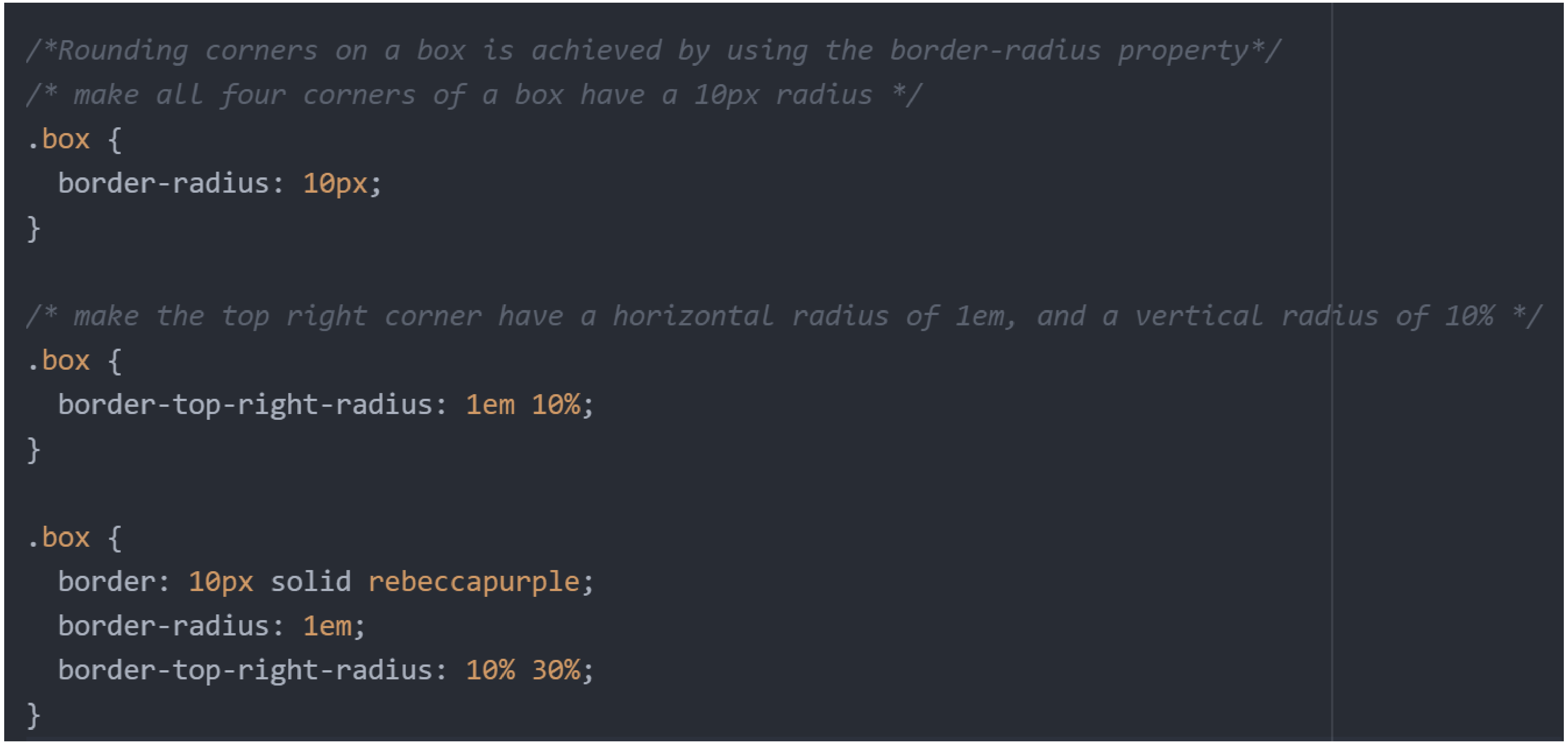
■	#020024	0
■	#090979	35
■	#00d4ff	100

Borders - Styling



```
/*we can target one edge of the box*/
.box {
  border-top: 1px solid black;
}
/*The individual properties for these shorthands would be:*/
.box {
  border-width: 1px;
  border-style: solid;
  border-color: black;
}
?* And for the longhands: */
.box {
  border-top-width: 1px;
  border-top-style: solid;
  border-top-color: black;
}
?* Rounded corners */
.box {
  border-radius: 10px;
}
```

Borders - Styling



```
/*Rounding corners on a box is achieved by using the border-radius property*/
/* make all four corners of a box have a 10px radius */
.box {
  border-radius: 10px;
}

/* make the top right corner have a horizontal radius of 1em, and a vertical radius of 10% */
.box {
  border-top-right-radius: 1em 10%;
}

.box {
  border: 10px solid rebeccapurple;
  border-radius: 1em;
  border-top-right-radius: 10% 30%;
}
```

CSS layout

CSS page layout techniques allow us to take elements contained in a web page and control where they're positioned relative to the following factors: their default position in normal layout flow, the other elements around them, their parent container, and the main viewport/window.

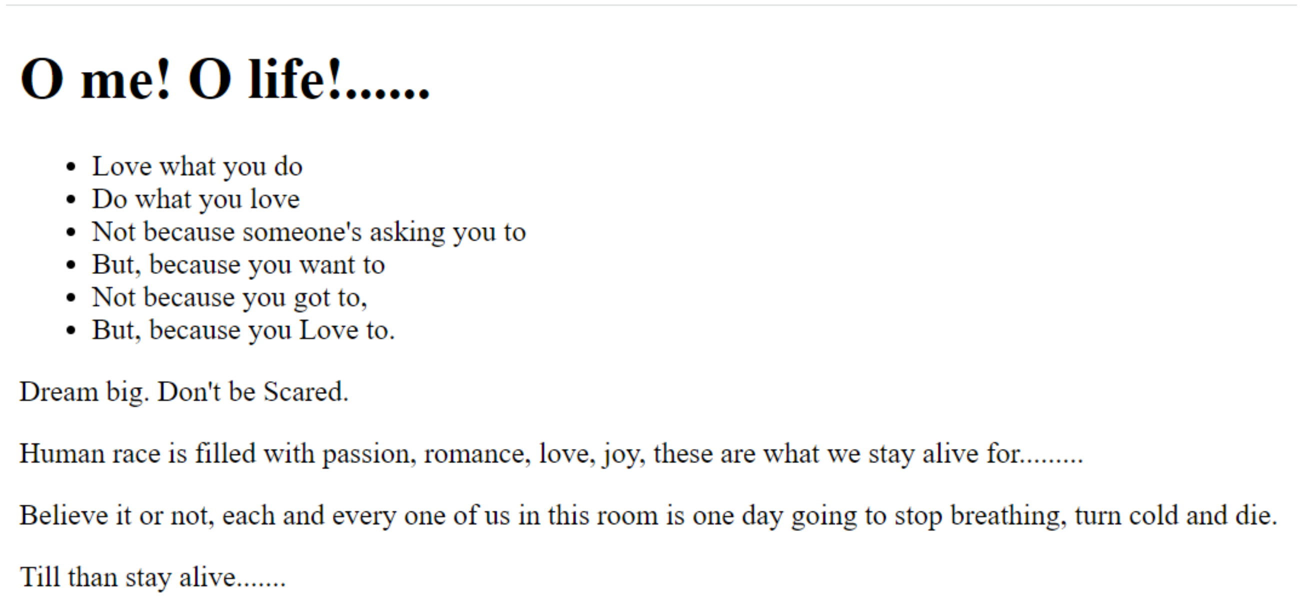
- Normal flow
- The display property
- Flexbox
- Grid
- Floats
- Positioning
- Table layout
- Multiple-column layout

Normal flow

Normal flow is how the browser lays out HTML pages by default when you do nothing to control page layout.

HTML is displayed in the exact order in which it appears in the source code, with elements stacked on top of one another — the first heading, followed by the unordered list, followed by the paragraph.

The elements that appear one below the other are described as **block** elements, in contrast to **inline** elements, which appear beside one another like the individual words in a paragraph.



O me! O life!......

- Love what you do
- Do what you love
- Not because someone's asking you to
- But, because you want to
- Not because you got to,
- But, because you Love to.

Dream big. Don't be Scared.

Human race is filled with passion, romance, love, joy, these are what we stay alive for.........

Believe it or not, each and every one of us in this room is one day going to stop breathing, turn cold and die.

Till than stay alive.......

CSS Layout

The methods that can change how elements are laid out in CSS are:

The display property — Standard values such as block, inline or inline-block can change how elements behave in normal flow, for example, by making a block-level element behave like an inline-level element

Floats — Applying a float value such as left can cause block-level elements to wrap along one side of an element, like the way images sometimes have text floating around them in magazine layouts.

The position property — Allows you to precisely control the placement of boxes inside other boxes. static positioning is the default in normal flow, but you can cause elements to be laid out differently using other values, for example, as fixed to the top of the browser viewport.

Table layout — Features designed for styling parts of an HTML table can be used on non-table elements using display: table and associated properties.

Multi-column layout — The Multi-column layout properties can cause the content of a block to layout in columns, as you might see in a newspaper.

Display property:

The main methods for achieving page layout in CSS all involve specifying values for the display property. This property allows us to change the default way something displays. Everything in normal flow has a default value for display.

display: block

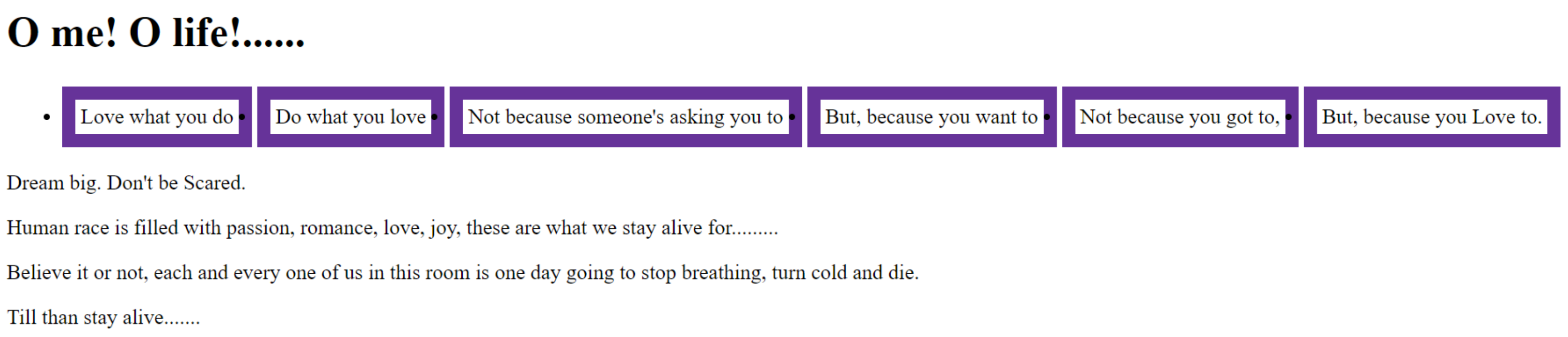
display: inline

display: flex

display: grid

Flexbox

Flexbox is the short name for the Flexible Box Layout CSS module, designed to make it easy for us to lay things out in one dimension — either as a row or as a column. To use flexbox, you apply display: flex to the parent element of the elements you want to lay out; all its direct children then become flex items.



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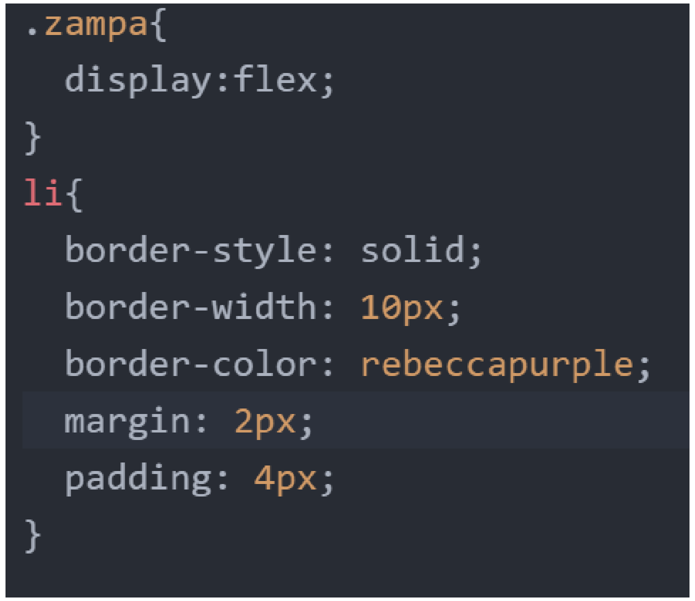
Till than stay alive.......



```
.zampa{
  display:flex;
}
li{
  border-style: solid;
  border-width: 10px;
  border-color: rebeccapurple;
  margin: 2px;
  padding: 4px;
}
```

Flexbox Settings

In addition to properties that can be applied to a flex container, there are also properties that can be applied to flex items. These properties, among other things, can change the way that items flex, enabling them to expand or contract according to available space.

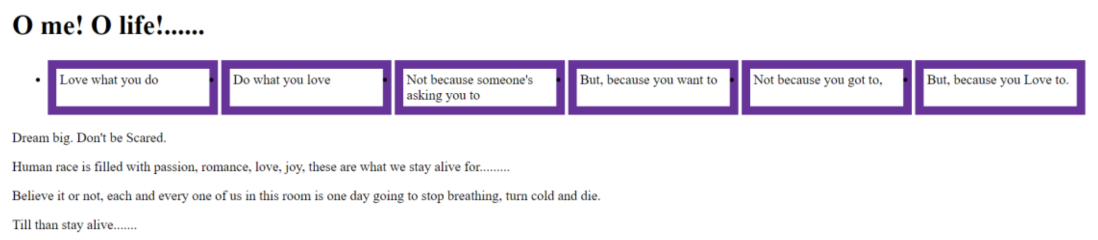
This property is a shorthand for the following CSS properties:

flex:1

flex-grow

flex-shrink

flex-basis



O me! O life!......

- Love what you do
- Do what you love
- Not because someone's asking you to
- But, because you want to
- Not because you got to,
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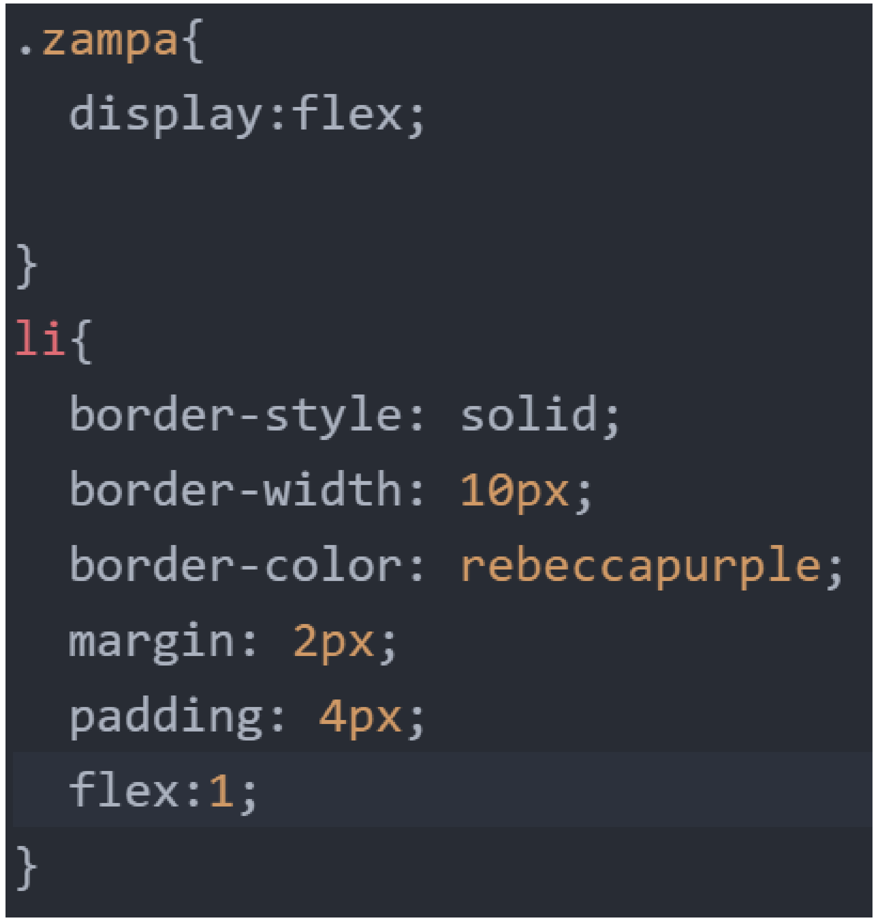
Dream big. Don't be Scared.

Human race is filled with passion, romance, love, joy, these are what we stay alive for.........

Believe it or not, each and every one of us in this room is one day going to stop breathing, turn cold and die.

Till than stay alive.......



```
.zampa{
  display:flex;

}
li{
  border-style: solid;
  border-width: 10px;
  border-color: rebeccapurple;
  margin: 2px;
  padding: 4px;
  flex:1;
}
```

CSS Layout - Grids

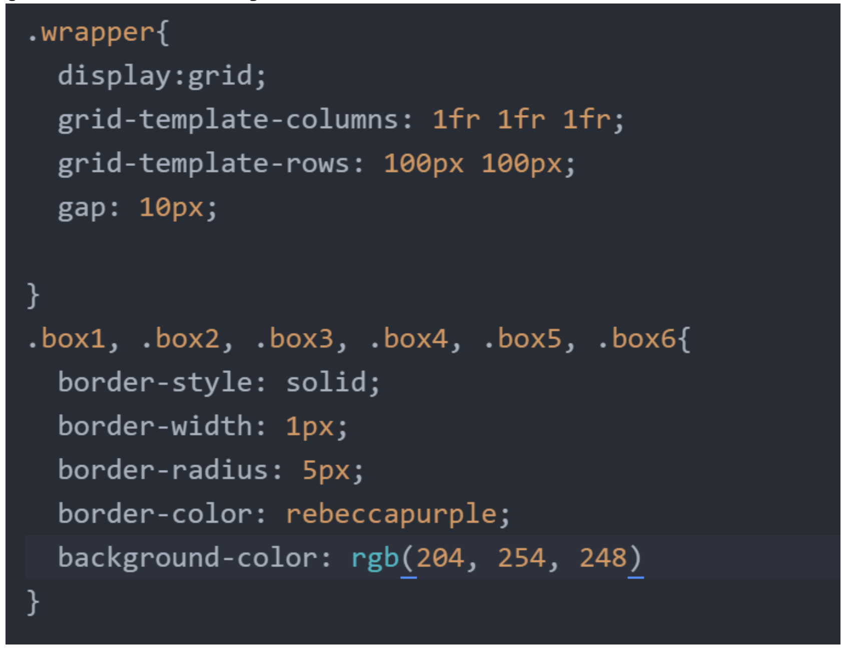
While flexbox is designed for one-dimensional layout, Grid Layout is designed for two dimensions — lining things up in rows and columns.

A grid is a collection of horizontal and vertical lines creating a pattern against which we can line up our design elements. They help us to create layouts in which our elements won't jump around or change width as we move from page to page, providing greater consistency on our websites.

A grid will typically have **columns**, **rows**, and then gaps between each row and column. The gaps are commonly referred to as **gutters**.

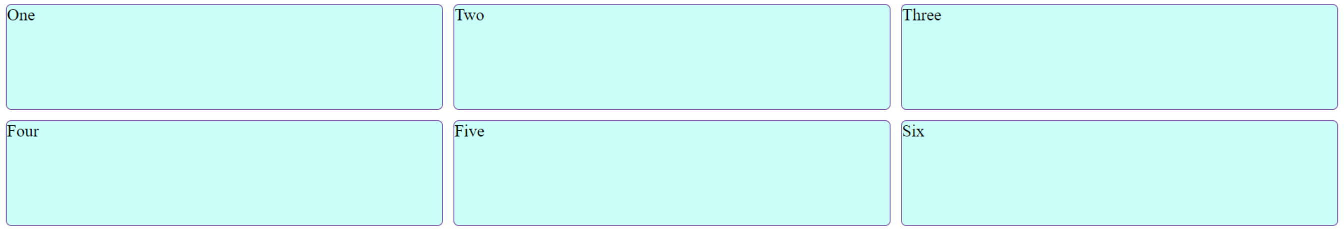
Setting display : grid

- Similar to flexbox, we enable Grid Layout with its specific display value — display: grid.
- we also define some row and column tracks for the parent using the grid-template-rows and grid-template-columns properties respectively.



```
.wrapper{
  display:grid;
  grid-template-columns: 1fr 1fr 1fr;
  grid-template-rows: 100px 100px;
  gap: 10px;

}
.box1, .box2, .box3, .box4, .box5, .box6{
  border-style: solid;
  border-width: 1px;
  border-radius: 5px;
  border-color: rebeccapurple;
  background-color: rgb(204, 254, 248)
}
```



Placing items on grid

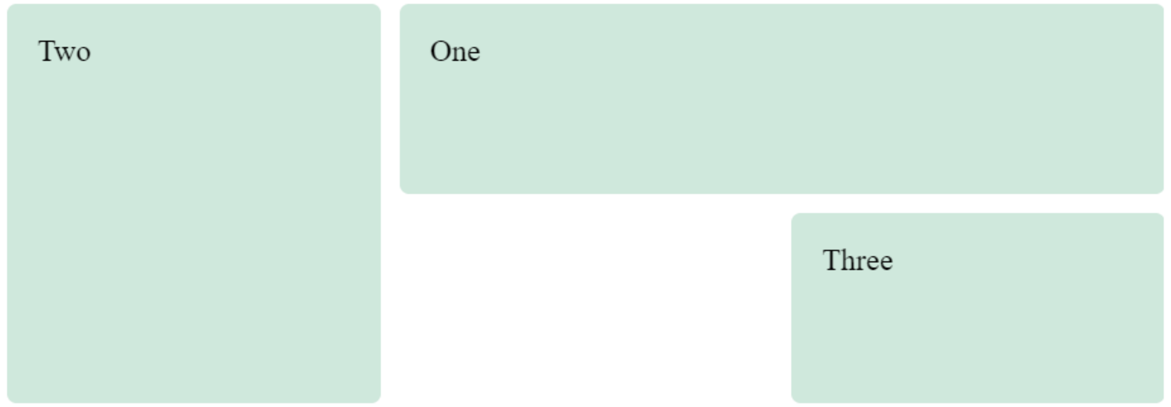
Once you have a grid, you can explicitly place your items on it, rather than relying on the auto-placement behavior seen above.

```
.wrapper {
   display: grid;
   grid-template-columns: 1fr 1fr 1fr;
   grid-template-rows: 100px 100px;
   gap: 10px;
}

.box1 {
   grid-column: 2 / 4;
   grid-row: 1;
}
```

```
.box2 {
   grid-column: 1;
   grid-row: 1 / 3;
}

.box3 {
   grid-row: 2;
   grid-column: 3;
}
```



Placing items on grid

```
.container {
  display: grid;

  grid-template-columns: 1fr 1fr 1fr 1fr;
  grid-template-rows: 100px 200px 100px;

  grid-template-areas:
        "head head2 . side"
        "main main2 . side"
        "footer footer footer footer";
}
```

```
.container {
  /* ... */

  grid-template-columns: 1fr 1fr 40px 20%;
  grid-template-rows: 100px 200px 100px;

  /* ... */
}
HEAD
```

Floats

Floating an element changes the behavior of that element and the block level elements that follow it in normal flow. The floated element is moved to the left or right and removed from normal flow, and the surrounding content floats around it.

The float property has four possible values:

left — Floats the element to the left.

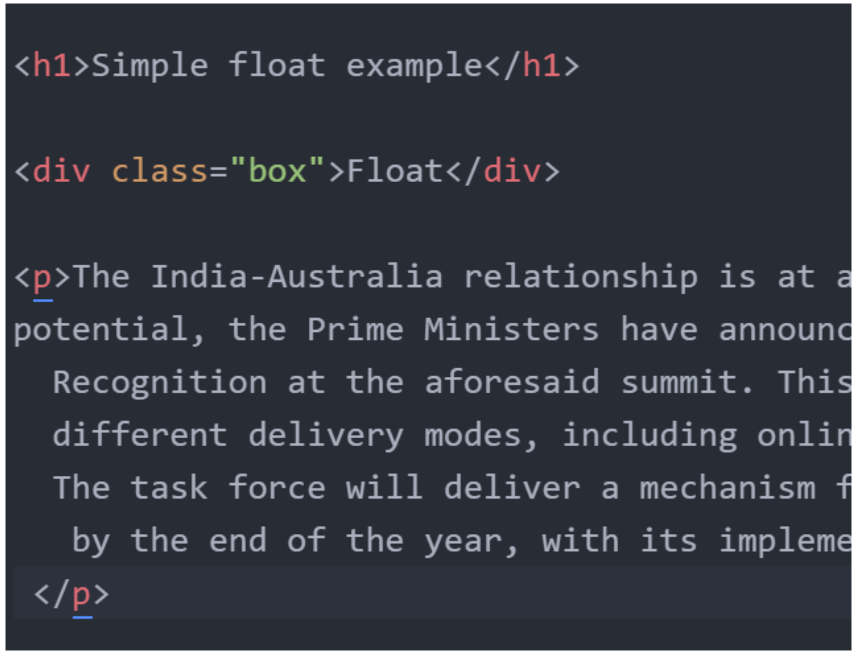
right — Floats the element to the right.

none — Specifies no floating at all. This is the default value.

inherit — Specifies that the value of the float property should be inherited from the element's parent element.

Floats

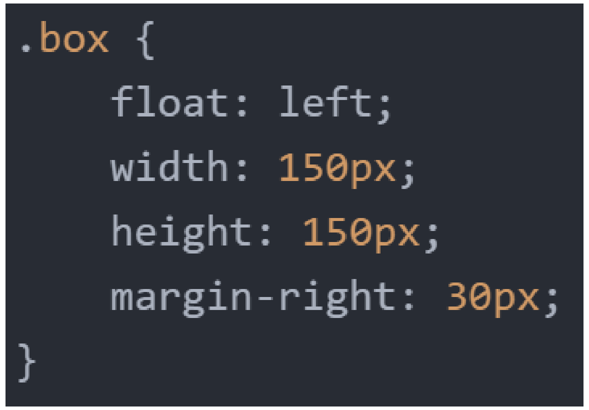
In the example below, we float a <div> left and give it a margin on the right to push the surrounding text away from it. This gives us the effect of text wrapped around the boxed element



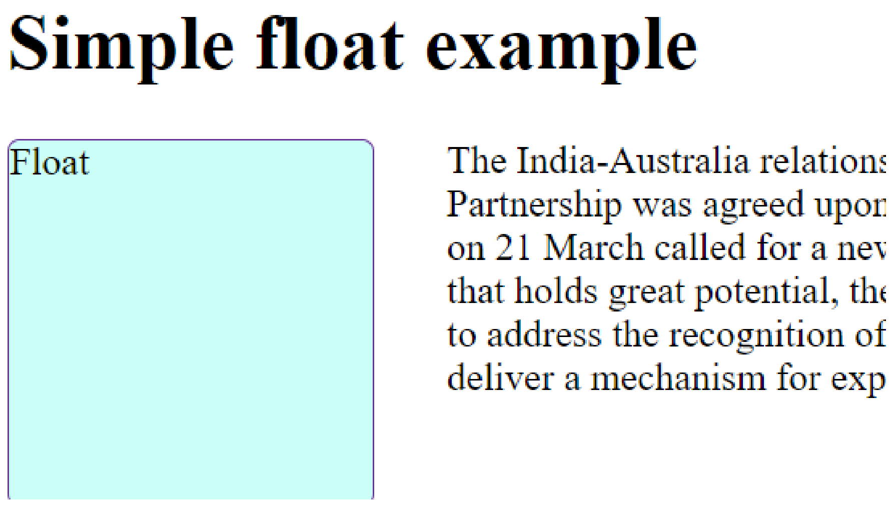
```
<h1>Simple float example</h1>

<div class="box">Float</div>

<p>The India-Australia relationship is at a
potential, the Prime Ministers have announc
  Recognition at the aforesaid summit. This
  different delivery modes, including onlin
  The task force will deliver a mechanism f
   by the end of the year, with its impleme
 </p>
```



```
.box {
    float: left;
    width: 150px;
    height: 150px;
    margin-right: 30px;
}
```



Simple float example

Float

The India-Australia relations
Partnership was agreed upon
on 21 March called for a nev
that holds great potential, the
to address the recognition of
deliver a mechanism for exp

Positioning techniques

Positioning allows you to move an element from where it would otherwise be placed in normal flow over to another location. Positioning isn't a method for creating the main layouts of a page; it's more about managing and fine-tuning the position of specific items on a page.

There are five types of positioning you should know about:

Static positioning is the default that every element gets. It just means "put the element into its normal position in the document layout flow — nothing special to see here".

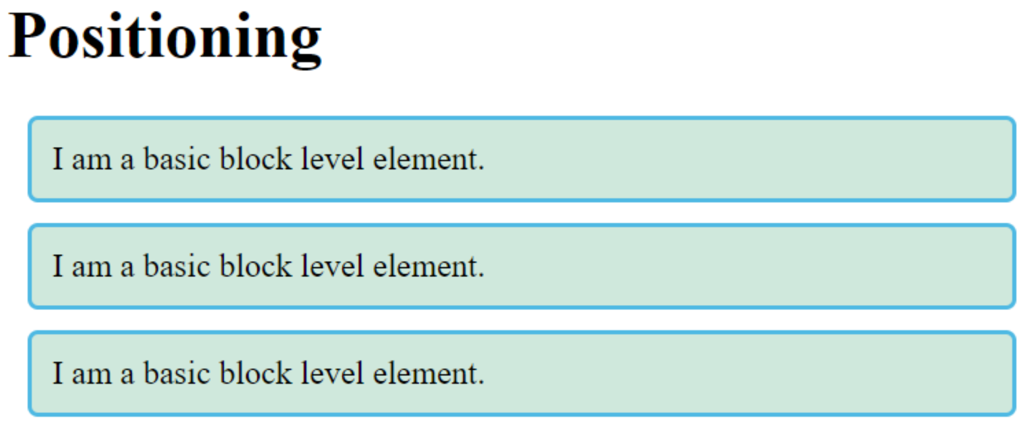
Relative positioning allows you to modify an element's position on the page, moving it relative to its position in normal flow, as well as making it overlap other elements on the page.

Absolute positioning moves an element completely out of the page's normal layout flow, like it's sitting on its own separate layer. From there, you can fix it to a position relative to the edges of the <html> element (or its nearest positioned ancestor element).

Fixed positioning is very similar to absolute positioning except that it fixes an element relative to the browser viewport, not another element.

Sticky positioning is a newer positioning method that makes an element act like position: static until it hits a defined offset from the viewport, at which point it acts like position: fixed.

Positioning techniques - Relative



Positioning

I am a basic block level element.

I am a basic block level element.

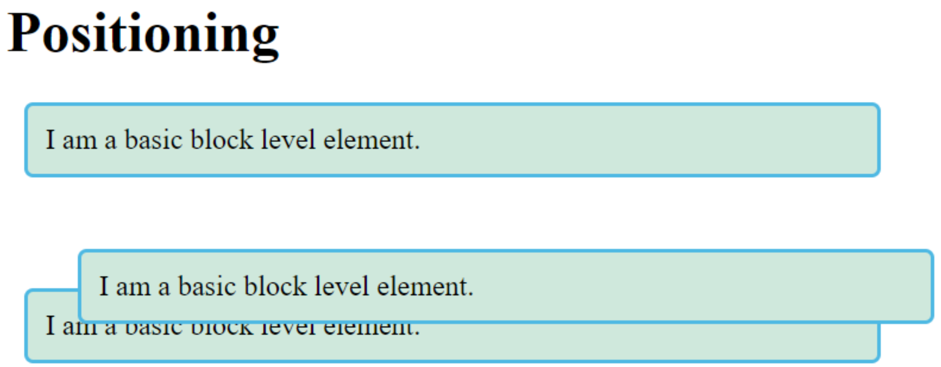
I am a basic block level element.

```
.positioned {
  position: relative;
  top: 30px;
  left: 30px;
}
```

```
.positioned {
  position: absolute;
  top: 30px;
  left: 30px;
}
```

```
.positioned {
  position: sticky;
  top: 30px;
  left: 30px;
}
```

```
.positioned {
  position: fixed;
  top: 30px;
  left: 30px;
}
```

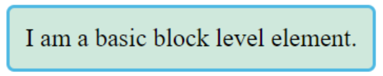


Positioning

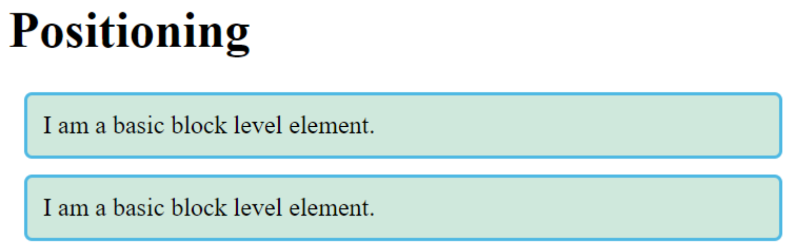
I am a basic block level element.

I am a basic block level element.

I am a basic block level element.



I am a basic block level element.



Positioning

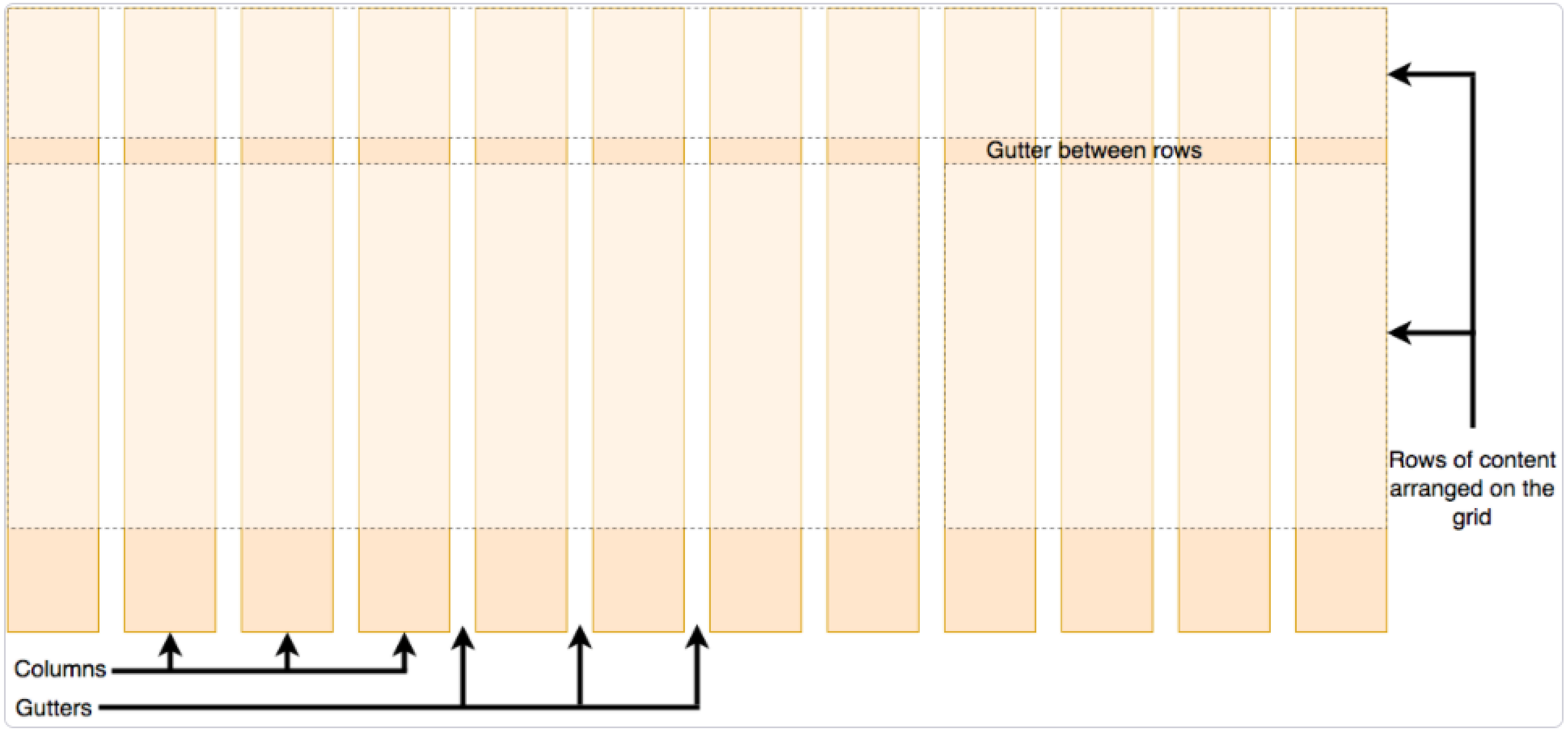
I am a basic block level element.

I am a basic block level element.

Table - Layout

The way that a table looks on a webpage when you use table markup is due to a set of CSS properties that define table layout. These same properties can also be used to lay out elements that aren't tables, a use which is sometimes described as "using CSS tables".

CSS Layout - Grids



CSS Layout - Grids

Defining a grid:

To define a grid we use the grid value of the display property. As with Flexbox, this enables Grid Layout;

```
.container {
   display: grid;
}
```