

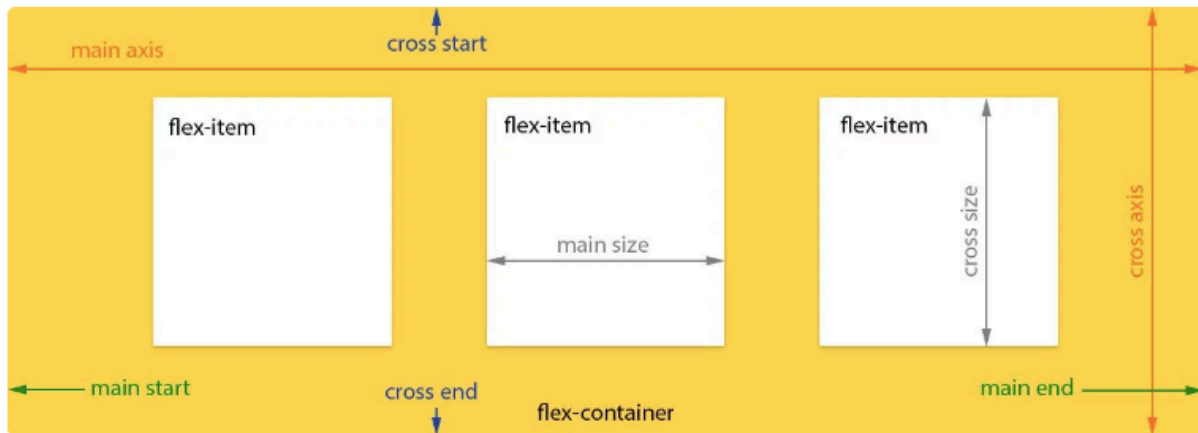
CSS FlexBox

What is Flexbox?

Flex Box (The flexible box model) provides an easier, cleaner and more efficient way to lay out items within a container. Because Flexbox is so... Flexible, it will cleanly lay out content within a container even if the size of the container is unknown. It gives the container the ability to alter its items within width/height and order of the items within (which also can be changed all within the CSS without touching the HTML code).

Flex box layout is direction agnostic, it works well both horizontally or vertically. Remember, flex box is made for one dimensional layouts within a parent container, whereas Grid is made for 2 dimensional bigger scale layouts.

One dimension



Flex Properties

Parent Properties (Flex Container)

display; flex OR inline-flex; - I declare you to be a flex box! 😊

```

1  /* CSS Document */
2
3  /* Just some style for the div */
4  .myflexbox div {
5      border: 1px solid;
6      border-color: #A5A5A5;
7      border-radius: 2px;
8      padding: 10px;
9  }
10
11
12  /* flexbox ----- */
13  .myflexbox {
14      display: flex;
15  }
16
17
18  .box1 {
19      flex: 1;
20  }
21
22  .box2 {
23      flex: 1;
24  }
25
26  .box3 {
27      flex: 1;
28  }

```

Box One

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.

Box Two

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.

Box Three

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaerat praesentium mollitia. Quibusdam.

flex-direction: row OR column; - Makes the items within the flex box container go horizontal or vertically.

- **flex-direction: row;**

```

1  /* CSS Document */
2
3  .myflexbox {
4      display: flex;
5      flex-direction: row;
6  }
7
8  .myflexbox div {
9      border: 1px solid;
10     border-color: #3A3A3A;
11     border-radius: 5px;
12     padding: 10px;
13 }
14
15 .box1 {
16     flex: 1;
17 }
18
19 .box2 {
20     flex: 1;
21 }
22
23 .box3 {
24     flex: 1;
25 }

```

Box One

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.

Box Two

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.

Box Three

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaerat praesentium mollitia. Quibusdam.

- **flex-direction: column;**

```
1  /* CSS Document */
2
3  ▼ .myflexbox {
4      display: flex;
5      flex-direction: column;
6  }
7
8  ▼ .myflexbox div {
9      border: 1px solid;
10     border-color: #3A3A3A;
11     border-radius: 5px;
12     padding: 10px;
13 }
14
15 ▼ .box1 {
16     flex: 1;
17 }
18
19 ▼ .box2 {
20     flex: 1;
21 }
22
23 ▼ .box3 {
24     flex: 1;
25 }
```

<h3>Box One</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.</p>
<h3>Box Two</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.</p>
<h3>Box Three</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaerat praesentium mollitia. Quibusdam.</p>

flex-wrap: wrap OR nowrap OR wrapreverse; - What this does is tells the items within the flex box how to behave when a window is resized.

wrap - Is the default and the items in the flex box will contract or expand within the flex box container when the window it resized. (may cause overflow).

nowrap - will make the items move down

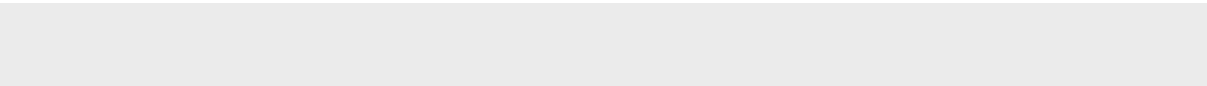
to the next line responsively to the window being resized smaller in the order defined by **flex-direction**.

wrapreverse - will make the items move down to the next line responsively to the window being resized smaller in the *opposite* order defined by **flex-direction**.

1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

1	2	3	4
5	6	7	8

5	6	7	8
1	2	3	4



justify-content: flex-start OR flex-end OR center; - flex-start would align to the left | flex-end would align to the right | center would center it.

- **justify-content: flex-start;** (default)

```
1  /* CSS Document */
2
3  .myflexbox {
4    display: flex;
5    flex-direction: row;
6    justify-content: flex-start;
7
8  }
9
10 .myflexbox div {
11   border: 1px solid;
12   border-color: #3A3A3A;
13   border-radius: 5px;
14   padding: 10px;
15 }
16
17 .box {
18   width: 20%;
19 }
```

Box One	Box Two	Box Three
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaeat praesentium mollitia. Quibusdam.

- **justify-content: flex-end;**

```
1  /* CSS Document */
2
3  .myflexbox {
4    display: flex;
5    flex-direction: row;
6    justify-content: flex-end;
7
8  }
9
10 .myflexbox div {
11   border: 1px solid;
12   border-color: #3A3A3A;
13   border-radius: 5px;
14   padding: 10px;
15 }
16
17 .box {
18   width: 20%;
19 }
```

Box One	Box Two	Box Three
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaeat praesentium mollitia. Quibusdam.

- justify-content: center;

```
1 /* CSS Document */
2
3 .myflexbox {
4   display: flex;
5   flex-direction: row;
6   justify-content: center;
7
8 }
9
10 .myflexbox div {
11   border: 1px solid;
12   border-color: #3A3A3A;
13   border-radius: 5px;
14   padding: 10px;
15 }
16
17 .box {
18   width: 20%;
19 }
```

Box One	Box Two	Box Three
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaerat praesentium mollitia. Quibusdam.

- justify-content: space-around;

```
1 /* CSS Document */
2
3 .myflexbox {
4   display: flex;
5   flex-direction: row;
6   justify-content: space-around;
7
8 }
9
10 .myflexbox div {
11   border: 1px solid;
12   border-color: #3A3A3A;
13   border-radius: 5px;
14   padding: 10px;
15 }
16
17 .box {
18   width: 20%;
19 }
```

Box One	Box Two	Box Three
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaerat praesentium mollitia. Quibusdam.

- justify-content: space-between;

```

1  /* CSS Document */
2
3  .myflexbox {
4    display: flex;
5    flex-direction: row;
6    justify-content: space-between;
7
8  }
9
10 .myflexbox div {
11   border: 1px solid;
12   border-color: #3A3A3A;|
13   border-radius: 5px;
14   padding: 10px;
15 }
16
17 .box {
18   width: 20%;
19 }

```

Box One

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.

Box Two

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.

Box Three

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi queraat praesentium mollitia. Quibusdam.

align-items: flex-start OR flex-end OR center;

- align-items: flex-start;

```

1  /* CSS Document */
2
3  .myflexbox {
4    display: flex;
5    flex-direction: row;
6    align-items: flex-start;
7
8  }
9
10 .myflexbox div {
11   border: 1px solid;
12   border-color: #3A3A3A;
13   border-radius: 5px;
14   padding: 10px;
15 }
16
17 .box1 {
18   flex: 1;
19   order: 2;
20 }
21
22 .box2 {
23   flex: 2;
24   order: 1;
25 }
26
27 .box3 {
28   flex: 1;
29   order: 3;
30 }

```

Box Two

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.

Box One

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.

Box Three

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi queraat praesentium mollitia. Quibusdam.

- align-items: flex-end;

```
1 /* CSS Document */
2
3 .myflexbox {
4   display: flex;
5   flex-direction: row;
6   align-items: flex-end;
7 }
8
9
10 .myflexbox div {
11   border: 1px solid;
12   border-color: #3A3A3A;
13   border-radius: 5px;
14   padding: 10px;
15 }
16
17 .box1 {
18   flex: 1;
19   order: 2;
20 }
21
22 .box2 {
23   flex: 2;
24   order: 1;
25 }
26
27 .box3 {
28   flex: 1;
29   order: 3;
30 }
```

Box Two

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officiis, quia quidem natus.

Box One

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.

Box Three

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaerat praesentium mollitia. Quibusdam.

■ align-items: center;

```
1 /* CSS Document */
2
3 .myflexbox {
4   display: flex;
5   flex-direction: row;
6   align-items: center;
7 }
8
9
10 .myflexbox div {
11   border: 1px solid;
12   border-color: #3A3A3A;
13   border-radius: 5px;
14   padding: 10px;
15 }
16
17 .box1 {
18   flex: 1;
19   order: 2;
20 }
21
22 .box2 {
23   flex: 2;
24   order: 1;
25 }
26
27 .box3 {
28   flex: 1;
29   order: 3;
30 }
```

Box Two

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officiis, quia quidem natus.

Box One

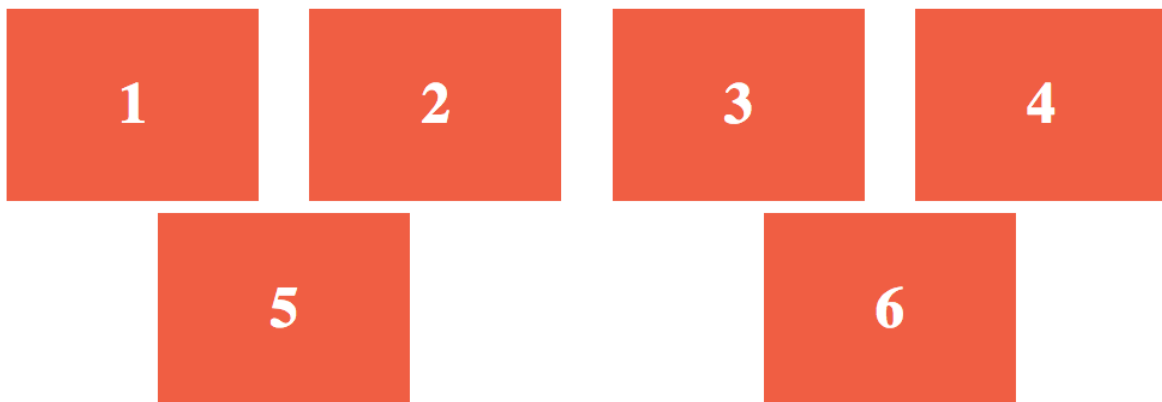
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.

Box Three

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaerat praesentium mollitia. Quibusdam.

align-content: flex-start OR flex-end OR

center; - Similar to justify content, does not work with boxes when they are in a single line. It will justify the boxes when there are more than 1 lines of boxes to the desired effect.



Child Properties (Flex Items)

flex: <number>; - Can make the desired box wider than the others (recommended method)

flex-grow: <number>; - Does the same

```

1  /* CSS Document */
2
3  ▼ .myflexbox {
4      display: flex;
5      flex-direction: row;
6
7  }
8
9  ▼ .myflexbox div {
10     border: 1px solid;
11     border-color: #3A3A3A;
12     border-radius: 5px;
13     padding: 10px;
14 }
15
16 ▼ .box1 {
17     flex: 1;
18 }
19
20 ▼ .box2 {
21     flex: 3;
22 }
23
24 ▼ .box3 {
25     flex: 1;
26 }

```

<h3>Box One</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente cum nostrum non cum. Deserunt.</p>	<h3>Box Two</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.</p>	<h3>Box Three</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaeat praesentium mollitia. Quibusdam.</p>
---	---	--

flex-shrink: <number>; - Shrinks the desired box

```

1  /* CSS Document */
2
3  /* Just some style for the
4  ▼ .myflexbox div {
5      border: 1px solid;
6      border-color: #A5A5A5;
7      border-radius: 2px;
8      padding: 10px;
9  }
10
11
12  /* flexbox -----
13  ▼ .myflexbox {
14      display: flex;
15  }
16
17
18  ▼ .box1 {
19      flex-shrink: 2;
20  }
21
22  ▼ .box2 {
23  }
24
25
26  ▼ .box3 {
27  }
28  }

```

<h3>Box One</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente cum nostrum non cum. Deserunt.</p>	<h3>Box Two</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.</p>	<h3>Box Three</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaeat praesentium mollitia. Quibusdam.</p>
---	---	--

flex-basis: <length>; - Its the FLEX way to

assign width  but width works as well.

```
1  /* CSS Document */
2
3  /* Just some style for the div */
4  .myflexbox div {
5      border: 1px solid;
6      border-color: #A5A5A5;
7      border-radius: 2px;
8      padding: 10px;
9  }
10
11
12  /* flexbox ----- */
13  .myflexbox {
14      display: flex;
15      height: 500px;
16  }
17
18
19  .box1 {
20      flex-basis: 100px;
21  }
22
23  .box2 {
24  }
25  }
26
27  .box3 {
28  }
29  }
```

<h3>Box One</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.</p>	<h3>Box Two</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.</p>	<h3>Box Three</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaerat praesentium mollitia. Quibusdam.</p>
---	---	---

align-self: flex-start OR flex-end OR center; - Will align the desired box

```
1  /* CSS Document */
2
3  /* Just some style for the
4  .myflexbox div {
5      border: 1px solid;
6      border-color: #A5A5A5;
7      border-radius: 2px;
8      padding: 10px;
9  }
10
11
12  /* flexbox -----
13  .myflexbox {
14      display: flex;
15      height: 500px;
16  }
17
18
19  .box1 {
20      align-self: flex-end;
21  }
22
23  .box2 {
24  }
25  }
26
27  .box3 {
28  }
29  }
```

	<h3>Box Two</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officii, quia quidem natus.</p>	<h3>Box Three</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quaerat praesentium mollitia. Quibusdam.</p>
<h3>Box One</h3> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente eum nostrum non cum. Deserunt.</p>		

order: <number>; - Can change the order of the boxes without having to edit the HTML code

```
1  /* CSS Document */
2
3  .myflexbox {
4    display: flex;
5    flex-direction: row;
6
7  }
8
9  .myflexbox div {
10   border: 1px solid;
11   border-color: #3A3A3A;
12   border-radius: 5px;
13   padding: 10px;
14 }
15
16 .box1 {
17   flex: 1;
18   order: 2;
19 }
20
21 .box2 {
22   flex: 2;
23   order: 1;
24 }
25
26 .box3 {
27   flex: 1;
28   order: 3;
29 }
```

Box Two Lorem ipsum dolor sit amet, consectetur adipiscing elit. Modi consequuntur error nam labore nemo, obcaecati molestiae officis, quia quidem natus.	Box One Lorem ipsum dolor sit amet, consectetur adipiscing elit. Beatae totam ad dolore quia deserunt sapiente cum nostrum non cum. Deserunt.	Box Three Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et fugit consectetur perferendis beatae illum, repellendus eligendi quacrat praesentium mollitia. Quibusdam.
---	---	---

Section 2 Organizing CSS

Organizing CSS

One part of CSS that can get annoying is having to do things over and over. There

are some coding methods that have been implemented to mitigate this. To make it simpler, easier and more scalable. Imagine coding a website that has 100s of pages, you would want it to be scalable from the code end of things. To be easier to handle and manage. Some of this can seem confusing at first so in this we will go through them and then look at some simple code examples.

OOCSS (Object oriented CSS)

Object oriented CSS was proposed by web developer Nicole Sullivan in 2008. Her goal was to make dynamic CSS more manageable by applying the principles of object oriented design popularized by programming languages such as [Java](#) and [Ruby](#). Using the OOCSS framework results in CSS that is reusable,

scalable and easier to manage.

OOCSS is not a language in it self, it is a way of organizing your CSS code as you write it.

The First Rule of OOCSS: Separation of Structure and Skin

OOCSS has **two** major underlying principles. The first is establishing a clear division between structure and skin.

The structure of an application refers to things that are “invisible” to the user such as instructions for element size and positioning. These properties include:

- Height
- Width
- Margins
- Padding
- Overflow

An application's skin refers to the visual properties of elements such as:

- Colors
- Fonts
- Shadows
- Gradients

In other words, the structure consists of the instructions for **how things are laid out**, and the skin defines **what the layout looks like**. OOCSS defines them separately.

The Second Rule of OOCSS: Separation of Container and Content

Separating containers from content makes for a more consistent and predictable user experience. In this context, content refers to elements such as images, paragraphs and div tags that are nestled within other

elements, which serve as containers. Most containers can be represented by a structure class.

Refer to the OOCSS folder for example

SMACSS (Scalable and Modular Architecture for CSS)

SMACSS

SMACSS is a CSS framework by Jonathan Snook. On the SMACSS website (<https://smacss.com/>), he says it is more like a “style guide” than a rigid CSS framework. It focuses on five categories:

Base is used for defaults like **html**, **body**, **a**, **a:hover**. This includes your CSS resets and would often be in its own base CSS file or at the start of your main CSS.

Layout divides a page into sections with

elements like header, footer, and article. Often developers show layout elements by prefixing the class with (L)-> L-. Grids and lists would fall under this category.

Module is a reusable element on the page. SMACSS sees modules as the majority of your elements and doesn't require you to prefix them but you could do so if you choose.

State is used for the variations possible, for each element (e.g. active, inactive, expanded, hidden). These are prefixed with is-, e.g. **is-active**, **is-inactive**, **is-expanded**, **is-hidden** or are via pseudo-classes such as **:hover** and **:focus** or media queries.

Theme is similar to state but defines how modules and layouts will look. It is more applicable for larger sites with shared elements that look different throughout. You

would add theme variations on a per page or per section basis.

```
/* Base */  
  
/* Layout */  
  
/* Modules */  
  
/* State */  
  
/* Theme */
```

Child elements in SMACSS have the parent item prefixed with a dash.
e.g. **menu** and **menu-item**.

SMACSS states that it's all up to the choice of the developer. SMACSS just provides basic guidelines. Use your own naming conventions for each of the categories and arrange them in your preferred way, as long

as you document your approach so that other developers can follow along.

BEM (Block, Element, Modifier)

This is a popular way to name classes in HTML and CSS, it was developed by the Yandex team. It follows a thought process that follows a hierarchy. In this CSS methodology a **block** is a top-level abstraction of a new component, for example a button: `.btn { }`. This block should be thought of as a parent. Child items, or **elements**, can be placed inside and these are denoted by two underscores following the name of the block like `.btn__price { }`. Finally, **modifiers** can manipulate the block so that we can theme or style that particular component without inflicting changes on a completely unrelated module. This is done by appending two

hyphens to the name of the block just like `btn--orange`.

Basically & as the name states, we are breaking things up into Block, element and modifier only using classes, no ID's.

Example

`.blockname`

`.blockname__element`

`.blockname__element—modifier`

Examples

<http://416webhosting.com/humber/>

Further Reading

OOCSS

<https://github.com/stubbornella/oocss/wiki>

BEM

<http://getbem.com/introduction/>

SMACSS

<https://smacss.com/>