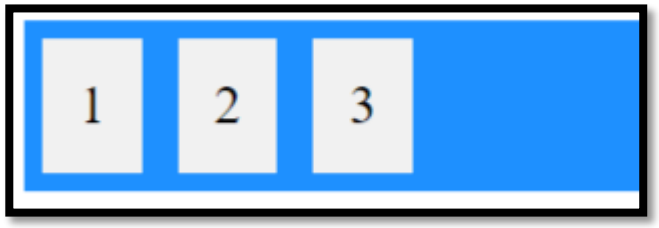
CSS Flexbox

CREATE SOME AWESOMENESS

Flex Container

```
<div class="flex-container">
  <div>1</div>
  <div>2</div>
  <div>3</div>
</div>
```




```
.flex-container {
  display: flex;
  background-color: DodgerBlue;
}
.flex-container > div {
  margin: 10px;
  padding: 20px;
  font-size: 30px;
}
```

flex-direction: column;

```
.flex-container {
  display: flex;
  flex-direction: column;
}
```

flex-direction: column-reverse;

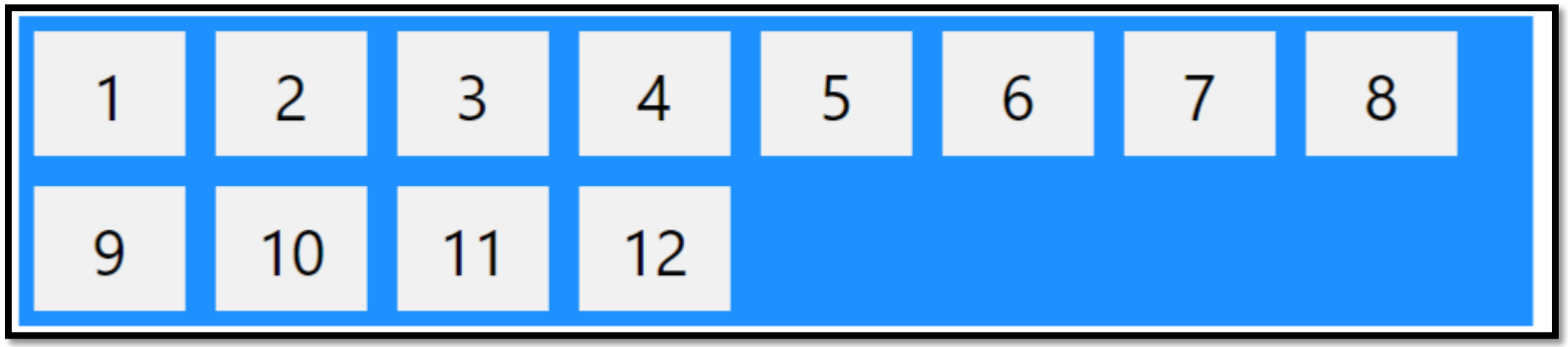
```
.flex-container {
  display: flex;
  flex-direction: column-reverse;
}
```

flex-direction: row-reverse;

```
.flex-container {
  display: flex;
  flex-direction:  row-reverse;
}
```

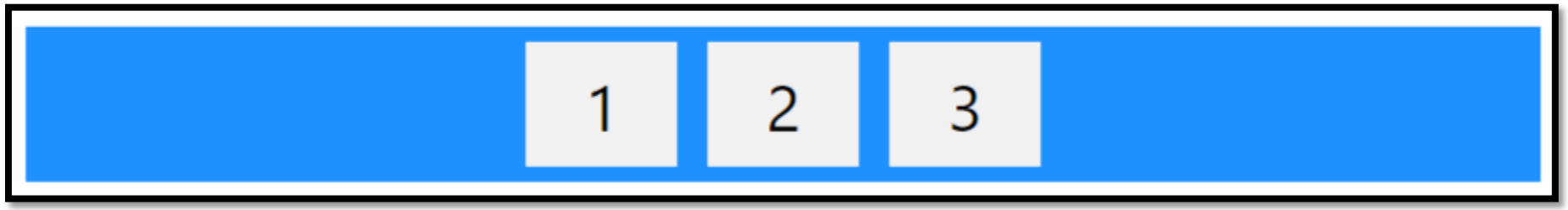
The flex-wrap Property (wrap, nowrap)

```
.flex-container {
  display: flex;
  flex-wrap: wrap;
}
```



The justify-content Property

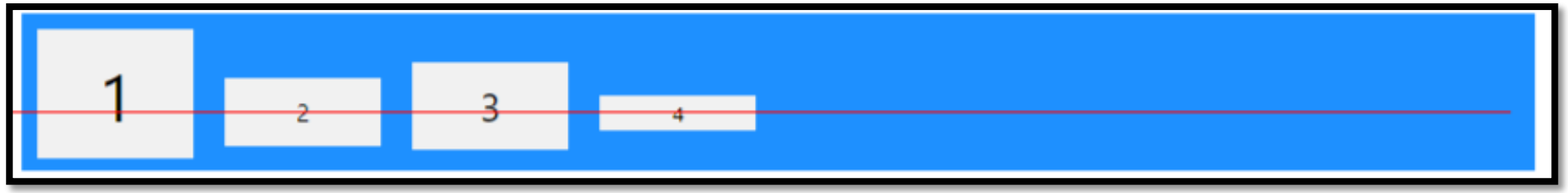
```
.flex-container {
  display: flex;
  justify-content: center;
}
```



Other Options flex-start, flex-end, space-around, space-between

The align-items Property

```
.flex-container {
  display: flex;
  height: 200px;
  align-items: baseline;
}
```

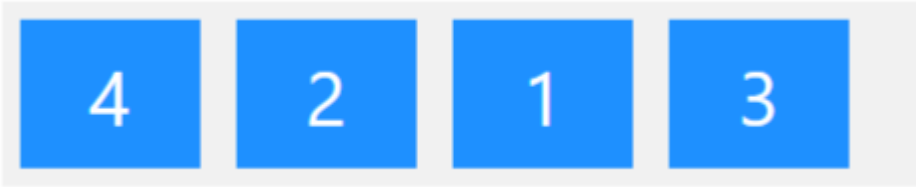


Perfect Centering

```
.flex-container {
  display: flex;
  height: 300px;
  justify-content: center;
  align-items: center;
}
```

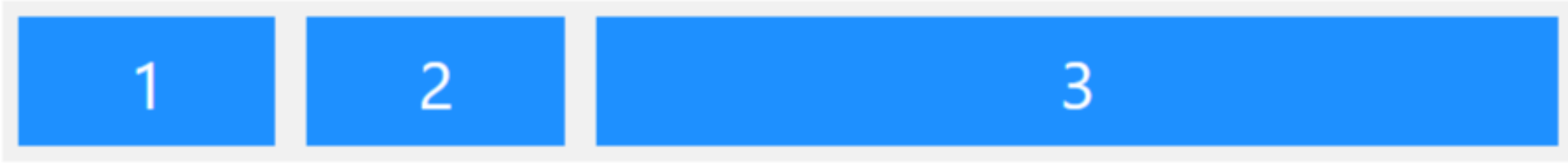
The Child Order

```
<div class="flex-container">
  <div style="order: 3">1</div>
  <div style="order: 2">2</div>
  <div style="order: 4">3</div>
  <div style="order: 1">4</div>
</div>
```



The Flex Grow

```
<div class="flex-container">
  <div style="flex-grow: 1">1</div>
  <div style="flex-grow: 1">2</div>
  <div style="flex-grow: 8">3</div>
</div>
```



Responsiveness

```
@media screen and (min-width: 480px) {
  #leftsidebar {width: 200px; float: left;}
  #main {margin-left: 216px;}
}
```

Property	Description
display	Specifies the type of box used for an HTML element
flex-direction	Specifies the direction of the flexible items inside a flex container
justify-content	Horizontally aligns the flex items when the items do not use all available space on the main-axis
align-items	Vertically aligns the flex items when the items do not use all available space on the cross-axis
flex-wrap	Specifies whether the flex items should wrap or not, if there is not enough room for them on one flex line
align-content	Modifies the behavior of the flex-wrap property. It is similar to align-items, but instead of aligning flex items, it aligns flex lines
flex-flow	A shorthand property for flex-direction and flex-wrap
order	Specifies the order of a flexible item relative to the rest of the flex items inside the same container
align-self	Used on flex items. Overrides the container's align-items property
flex	A shorthand property for the flex-grow, flex-shrink, and the flex-basis properties

The flex-shrink Property

```
<div class="flex-container">
  <div>1</div>
  <div>2</div>
  <div style="flex-shrink: 0">3</div>
  <div>4</div>
  <div>5</div>
  <div>6</div>
  <div>7</div>
  <div>8</div>
  <div>9</div>
  <div>10</div>
</div>
```

Try it yourself

https://www.w3schools.com/css/tryit.asp?filename=trycss3_flexbox_image_gallery

CSS Positioning

CREATE SOME AWESOMENESS

position: static;

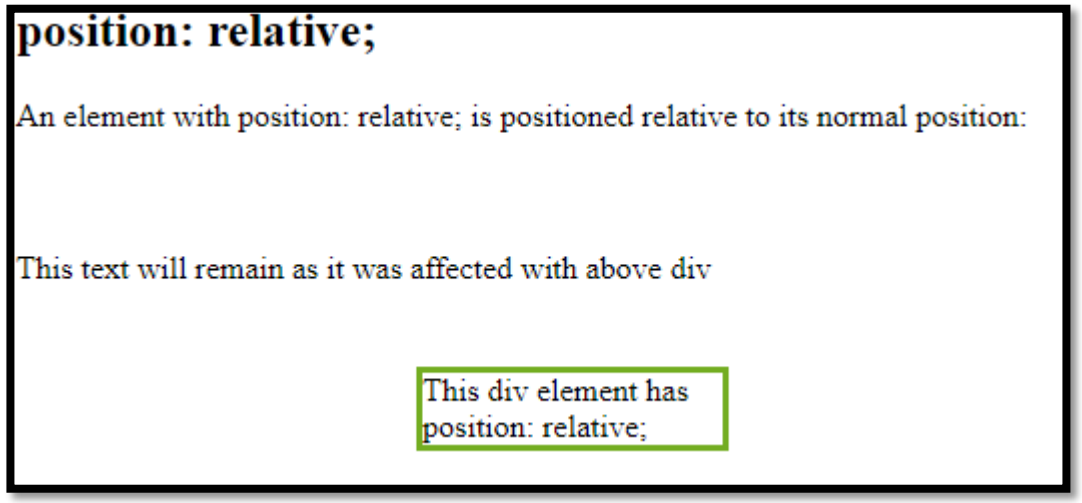
HTML elements are positioned static by default.

An element with position: static; is not positioned in any special way;

position: relative;

An element with position: relative; is positioned relative to its normal position:

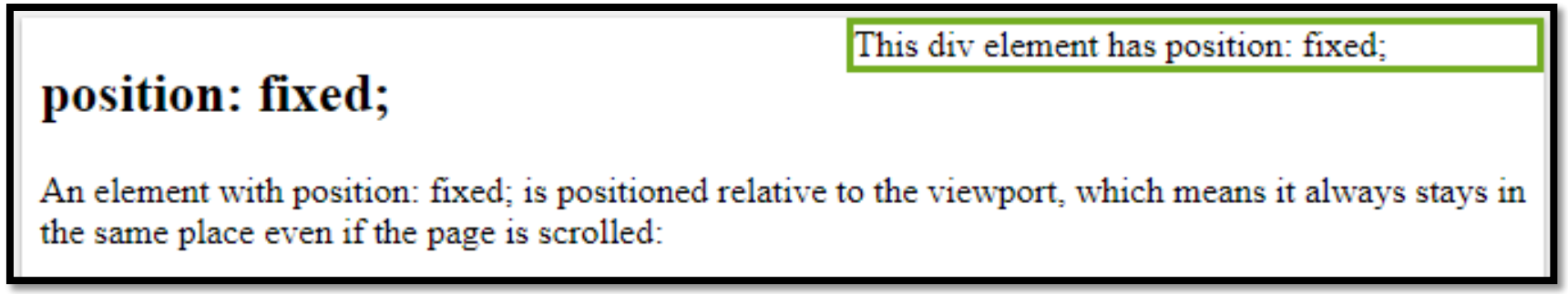
```
div.relative {
  position: relative;
  left: 200px;
  top:100px;
  width: 150px;
  border: 3px solid #73AD21;
}
```



position: fixed;

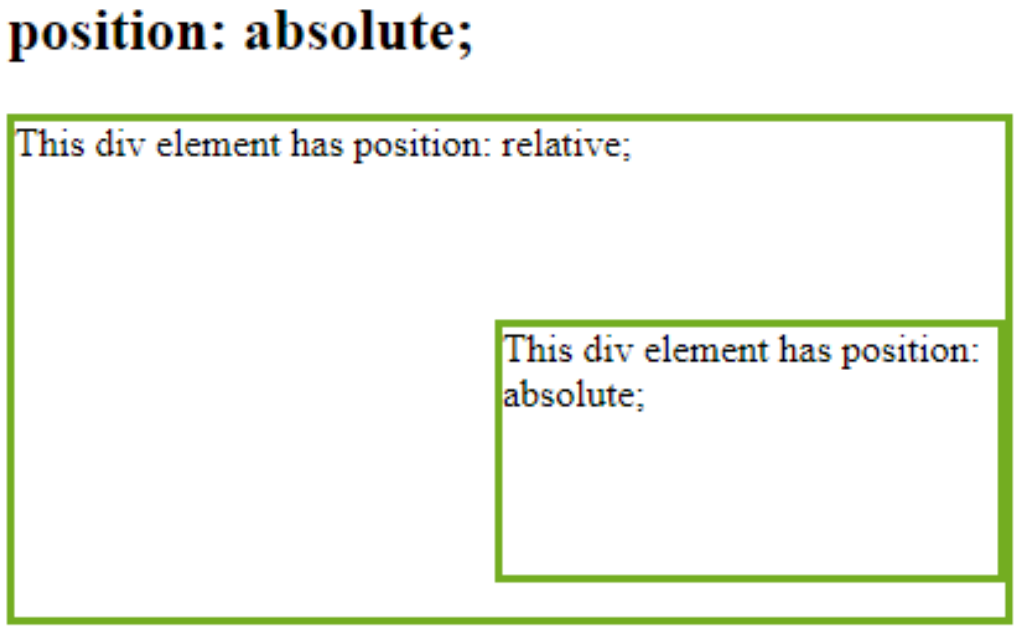
An element with position: fixed; is positioned relative to the viewport, which means it always stays in the same place even if the page is scrolled:

```
div.fixed {
  position: fixed;
  top: 0;
  right: 0;
  width: 300px;
  border: 3px solid #73AD21;
}
```



position: absolute;

An element with position: absolute; is positioned relative to the nearest positioned ancestor (instead of positioned relative to the viewport, like fixed).



position: absolute;

```
div.relative {
  position: relative;
  width: 400px;
  height: 200px;
  border: 3px solid #73AD21;
}
```

```
div.absolute {
  position: absolute;
  top: 80px;
  right: 0;
  width: 200px;
  height: 100px;
  border: 3px solid #73AD21;
}
```

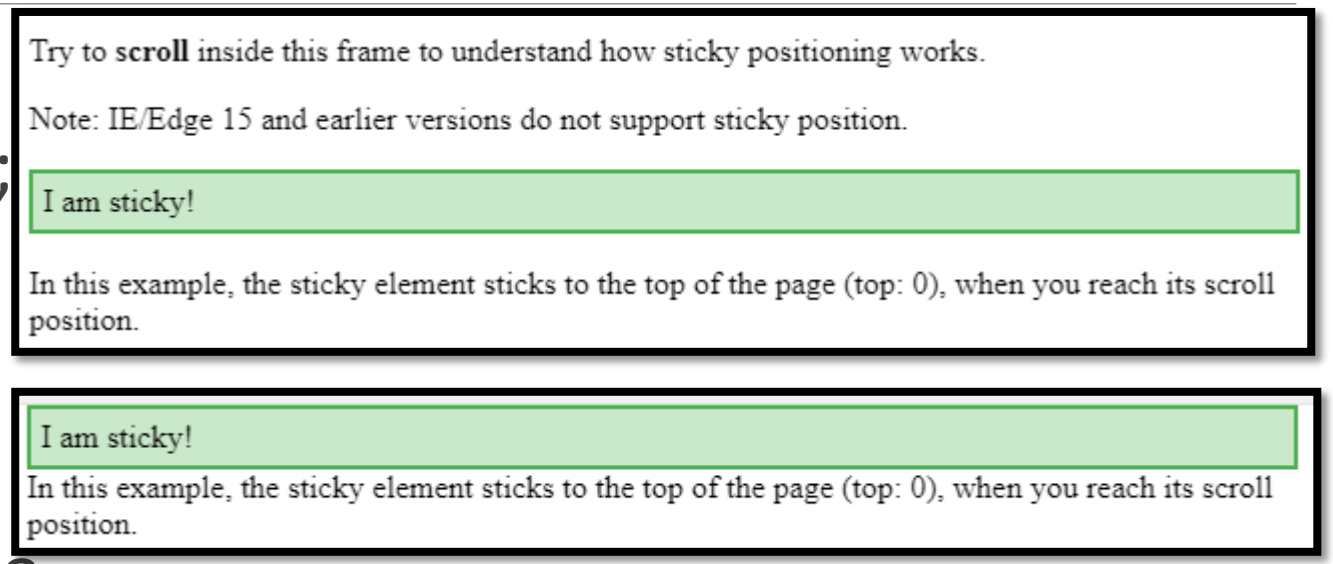
position: sticky;

An element with position: sticky; is positioned based on the user's scroll position.

A sticky element toggles between relative and fixed, depending on the scroll position. It is positioned relative until a given offset position is met in the viewport - then it "sticks" in place (like position:fixed).

position: sticky;

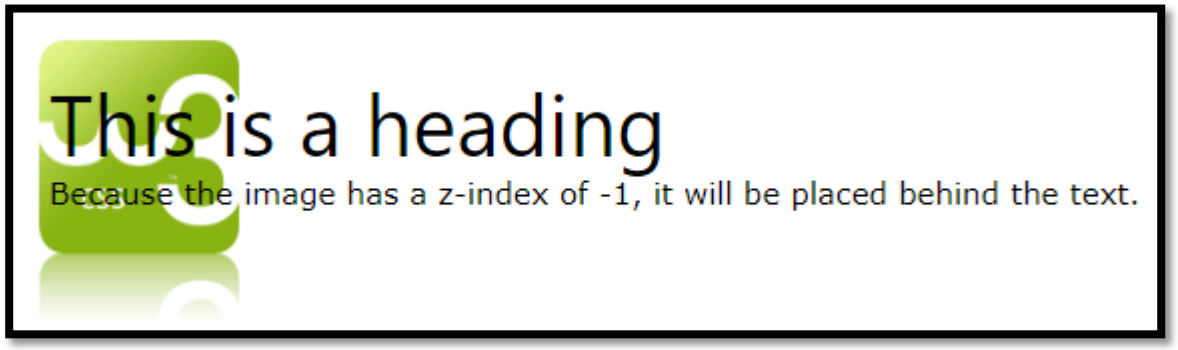
```
div.sticky {
  position: -webkit-sticky;
  position: sticky;
  top: 0;
  padding: 5px;
  background-color: #cae8ca;
  border: 2px solid #4CAF50;
}
```



Overlapping Elements

When elements are positioned, they can overlap other elements.

The z-index property specifies the stack order of an element (which element should be placed in front of, or behind, the others).



Animations

An animation lets an element gradually change from one style to another.

To use CSS animation, you must first specify some keyframes for the animation.

The @keyframes Rule

When you specify CSS styles inside the @keyframes rule, the animation will gradually change from the current style to the new style at certain times.

```
@keyframes example {
  from {background-color: red;}
  to {background-color: yellow;}
}
```

Animations

```
/* Safari 4.0 - 8.0 */
@-webkit-keyframes example {
  from {background-color: red;}
  to {background-color: yellow;}
}

/* Standard syntax */
@keyframes example {
  from {background-color: red;}
  to {background-color: yellow;}
}
```

Simple Example

THE ANIMATION CODE

```
@keyframes example {
  from {background-color: red;}
  to {background-color: yellow;}
}
```

HE ELEMENT TO APPLY THE ANIMATION TO

```
div {
  width: 100px;
  height: 100px;
  background-color: red;
  animation-name: example;
  animation-duration: 4s;
}
```

Use % to say what to do when

```
@keyframes example {
  0%   {background-color: red;}
  25%  {background-color: yellow;}
  50%  {background-color: blue;}
  100% {background-color: green;}
}
```

Control Animation

```
animation-name: example;
animation-duration: 4s; /*Speed*/
animation-delay: 2s; /*delay*/
```

```
animation-iteration-count: 3;
```

```
animation-direction: reverse;
```

Or

```
animation-iteration-count: infinite;
```

Speed Curve of the Animation

```
#div1 {animation-timing-function: linear;}
#div2 {animation-timing-function: ease;}
#div3 {animation-timing-function: ease-in;}
#div4 {animation-timing-function: ease-out;}
#div5 {animation-timing-function: ease-in-out;}
```

animation: example 5s linear 2s infinite alternate;

```
div {
  animation-name: example;
  animation-duration: 5s;
  animation-timing-function: linear;
  animation-delay: 2s;
  animation-iteration-count: infinite;
  animation-direction: alternate;
}
```

Use Less for

Variables

Dynamically calculated values

Mixins

Functions

Add LESS in HTML (Slow: Not Recommended)

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

<script src="//cdnjs.cloudflare.com/ajax/libs/less.js/3.9.0/less.min.js" ></script>
```

LESS Recommended Way

Install Node From Here

Then use following commands

npm install -g less

lessc styles.less styles.css

LESS Variables

LESS

```
@background-color: #ffffff;
@text-color: #1A237E;
p{
  background-color: @background-color;
  color: @text-color;
  padding: 15px;
}
```

CSS

```
p{
  background-color: #ffffff;
  color: #1A237E;
  padding: 15px;
}
```

LESS Mixins

LESS

```
#circle{
  background-color: #4CAF50;
  border-radius: 100%;
}
#small-circle{
  width: 50px;
  height: 50px;
  #circle
}
```

CSS

```
#circle {
  background-color: #4CAF50;
  border-radius: 100%;
}
#small-circle {
  width: 50px;
  height: 50px;
  background-color: #4CAF50;
  border-radius: 100%;
}
```

LESS Mixins With Parameters

LESS

```
#circle(@size: 25px){
  background-color: #4CAF50;
  border-radius: 100%;
  width: @size;
  height: @size;
}
#big-circle{
  #circle(100px)
}
```

CSS

```
#big-circle {
  background-color: #4CAF50;
  border-radius: 100%;
  width: 100px;
  height: 100px;
}
```

Nesting And Scope

LESS

```
ul{
  background-color: #03A9F4;
  padding: 10px;
  list-style: none;
  li{
    background-color: #fff;
    border-radius: 3px;
    margin: 10px 0;
  }
}
```

CSS

```
ul{
  background-color: #03A9F4;
  padding: 10px;
  list-style: none;
  li{
    background-color: #fff;
    border-radius: 3px;
    margin: 10px 0;
  }
}
```

Operations

LESS

```
@div-width: 100px;
@color: #03A9F4;
#right{
  width: @div-width * 2;
  background-color: @color;
}
```

CSS

```
#right {
  width: 200px;
  background-color: #03a9f4;
}
```

LESS Functions

LESS

```
@var: #004590;
div{
  height: 50px;
  width: 50px;
  background-color: @var;
  &:hover{
    background-color: fadeout(@var, 50%)
  }
}
```

CSS

```
div {
  height: 50px;
  width: 50px;
  background-color: #004590;
}
div:hover {
  background-color: rgba(0, 69, 144, 0.5);
}
```