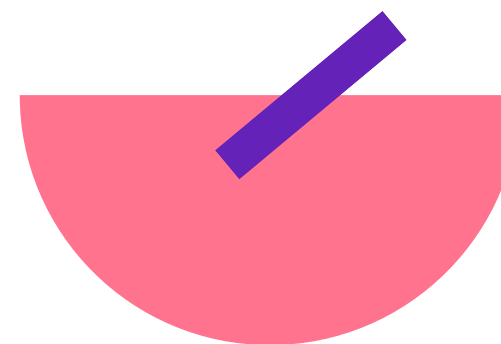
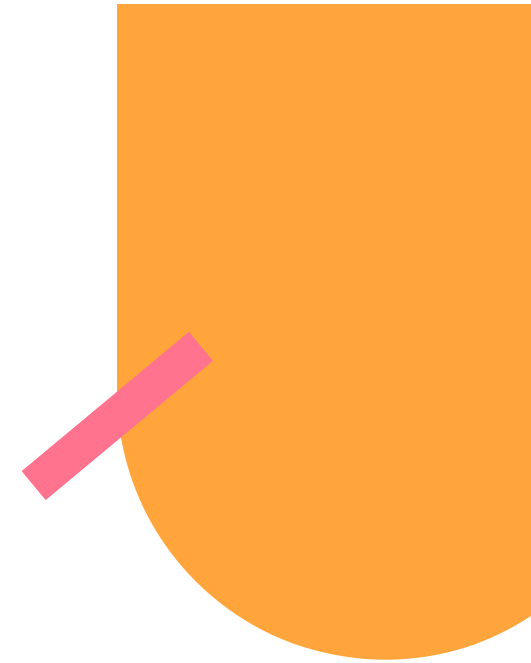


Home

CSS Foundations



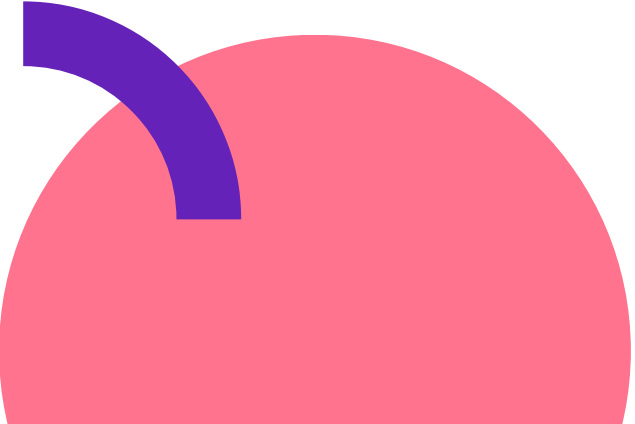


The Box Model



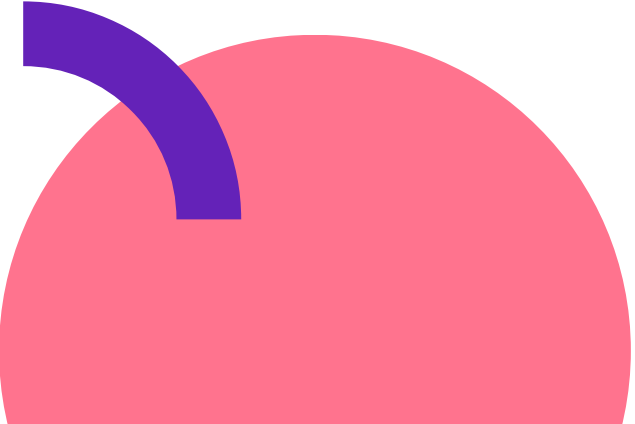


Block Elements

- Breaks onto new line
 - Padding, margin, and border separate it from other elements on the page
 - When width isn't specified, the box takes up the entire available width
 - Width and height are respected
- 

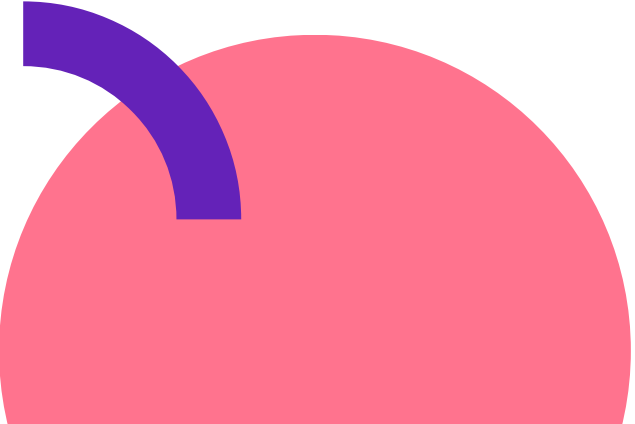


Inline Elements

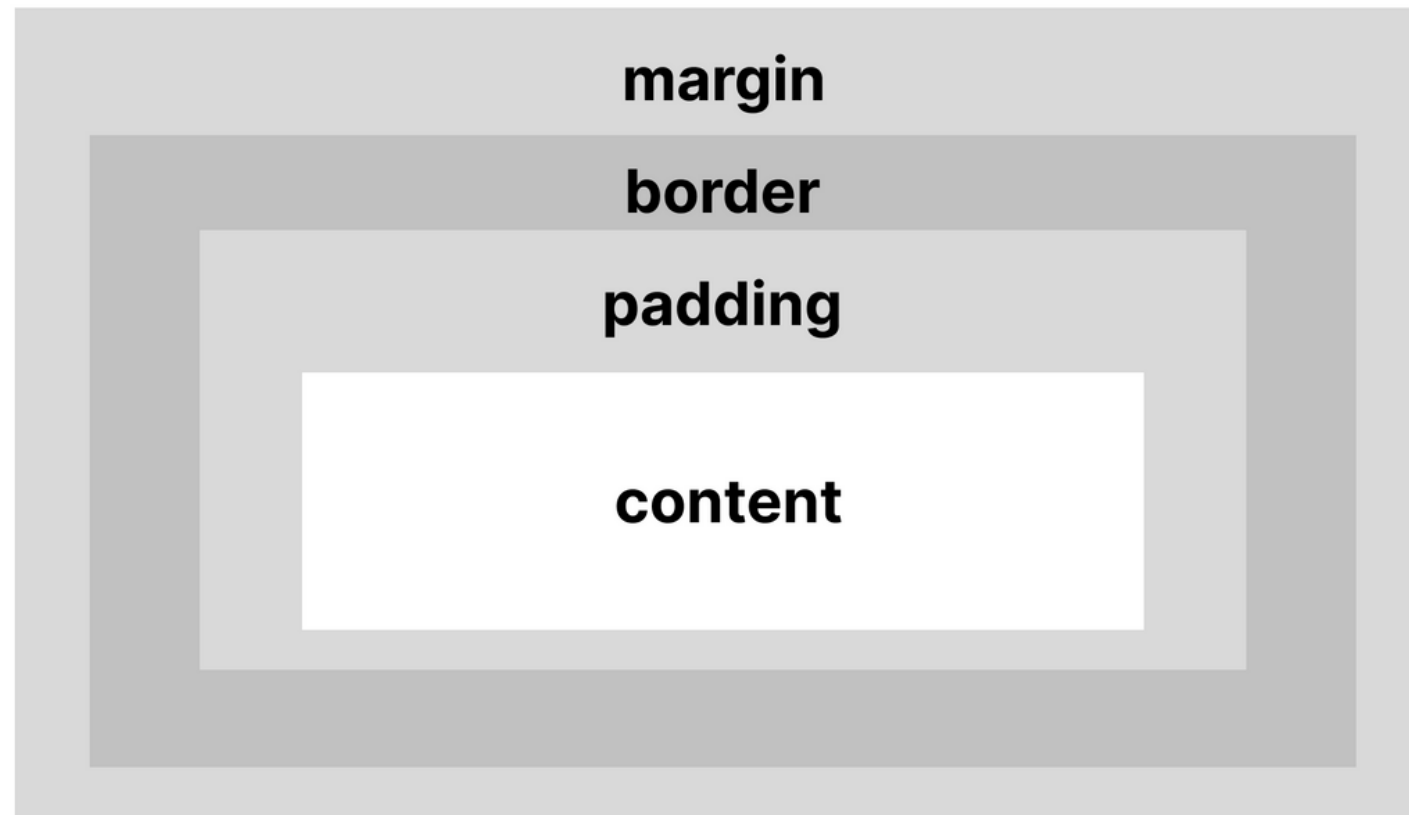
- Sits inline with other elements
 - Width and height don't apply
 - Only left and right padding, margin, and border will move other elements away
 - Top and bottom padding, margin, and borders can be applied but won't move other elements away
- 



Inline-Block Elements

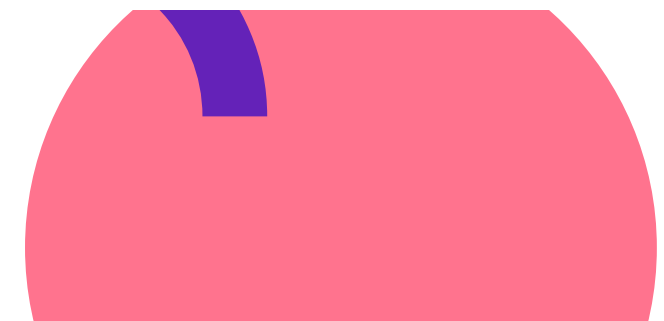
- You can set `display: inline-block` on an element if you don't want the element to break onto a new line but want to set an explicit width and height or padding, margin, and border.
- 

The Box Model



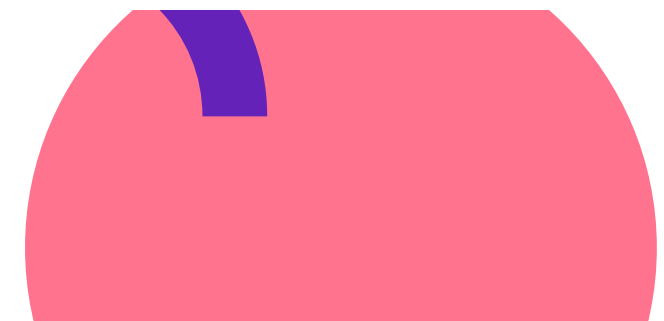
Content Box

Area where content is displayed



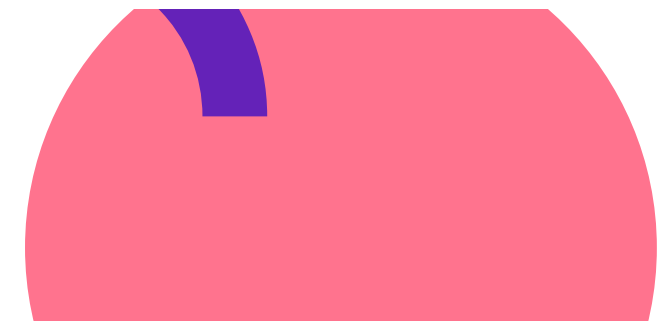
Padding Box

Wraps the content as white space



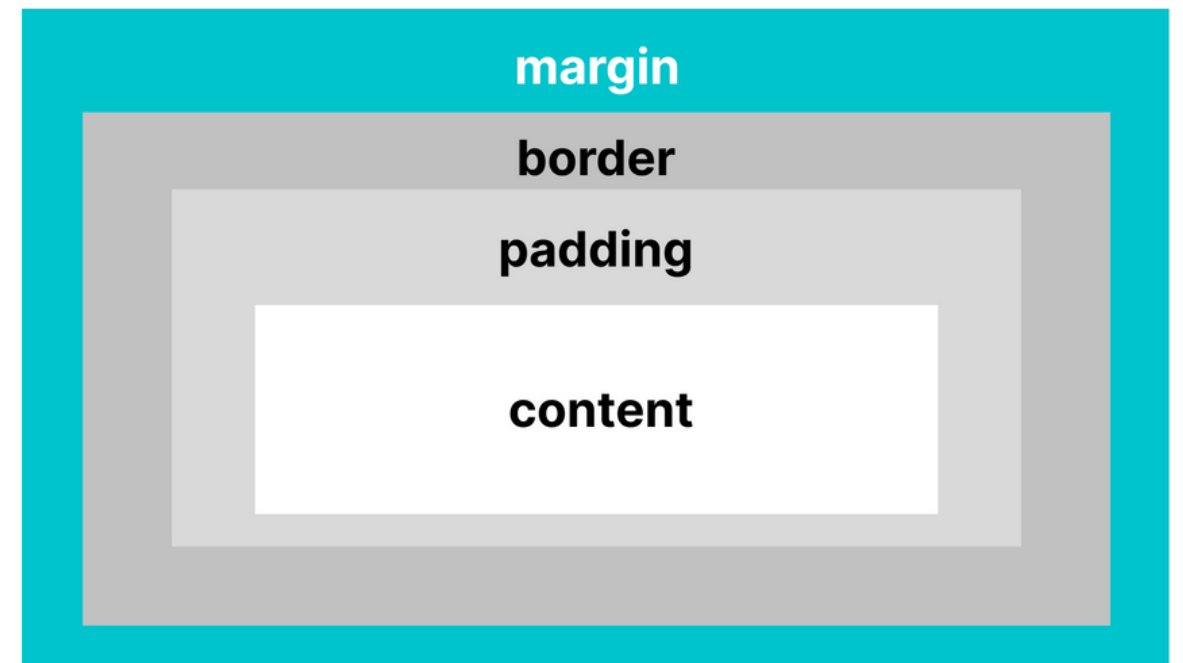
Border Box

Wraps the content and padding



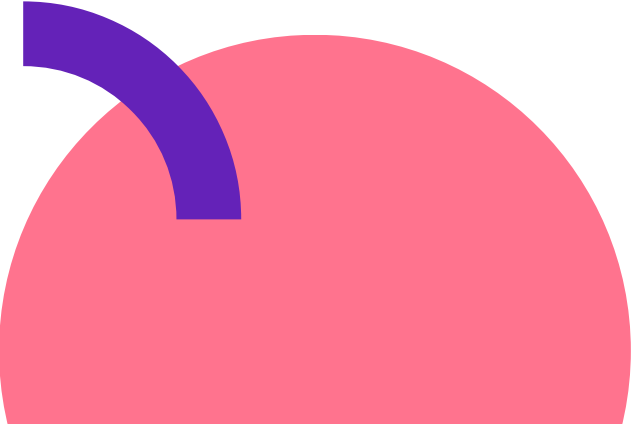
Margin Box

Wraps content, padding, and border as whitespace between other elements



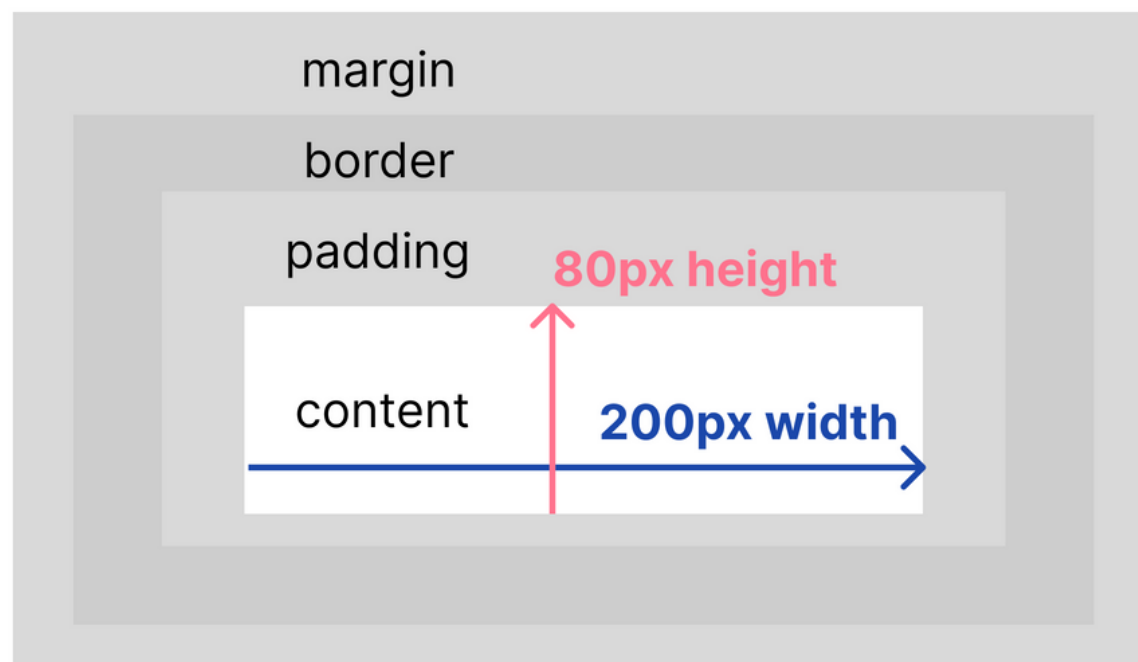


Standard Box Model

- With the standard box model you define width and height of the content box
 - Padding and border are added to those dimensions to get the total size
- 



```
.box {  
  width: 200px;  
  height: 80px;  
  padding: 20px;  
  border: 10px;  
}
```



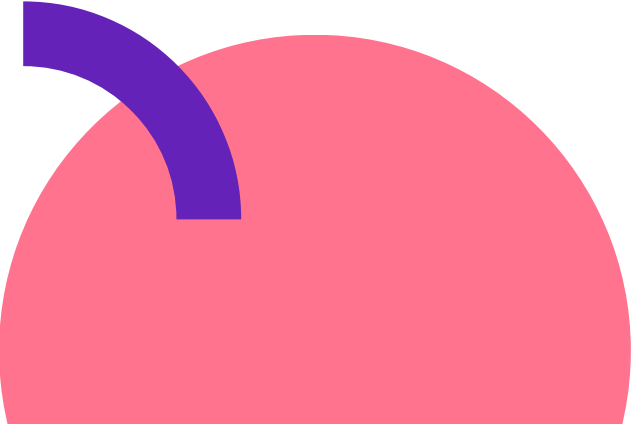
```
.box {  
  width: 200px;  
  height: 80px;  
  padding: 20px;  
  border: 10px;  
}
```

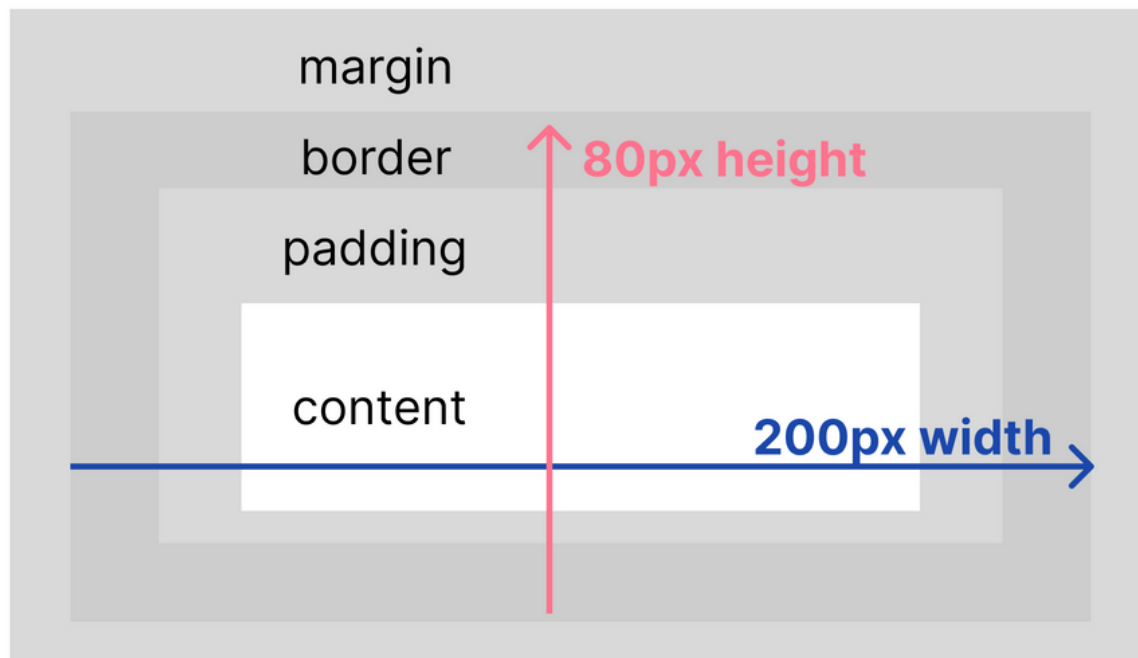
Width = 200px + 20px + 20px + 10px + 10px = 260px;

Height = 80px + 20px + 20px + 10px + 10px = 140px;



Alternative Box Model

- Size is the content area width and height minus padding and border.
 - **box-sizing: border-box;**
- 



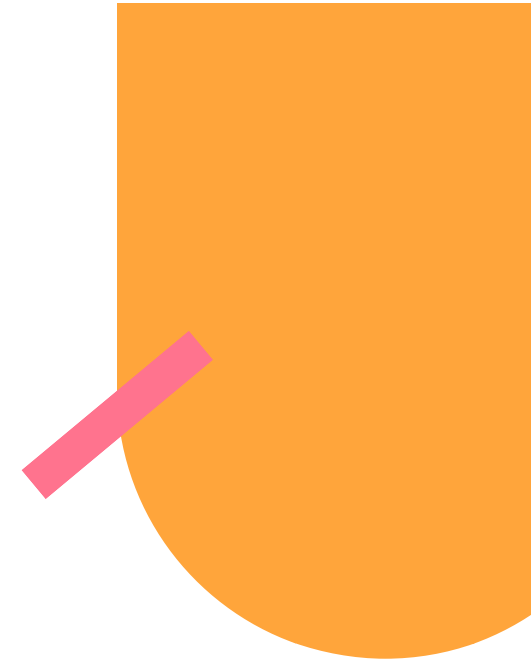
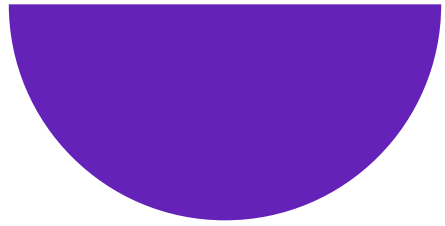
```
• • •  
  
.box {  
  width: 200px;  
  height: 80px;  
  padding: 20px;  
  border: 10px;  
  box-sizing: border-box;  
}
```



```
.box {  
  width: 200px;  
  height: 80px;  
  padding: 20px;  
  border: 10px;  
  box-sizing: border-box;  
}
```

Width = 200px - 20px - 20px - 10px - 10px = 140px;

Height = 80px - 20px - 20px - 10px - 10px = 20px;



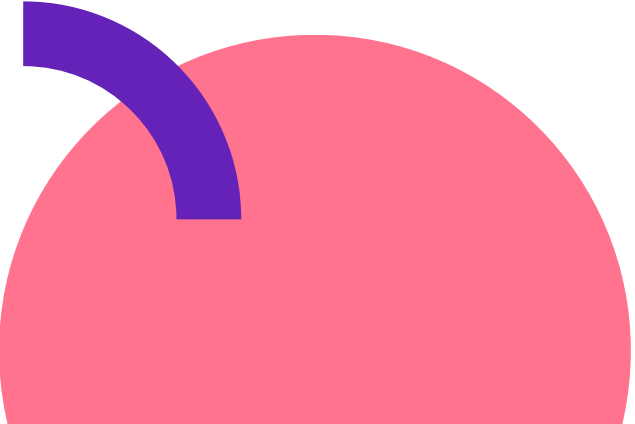
Z-Index



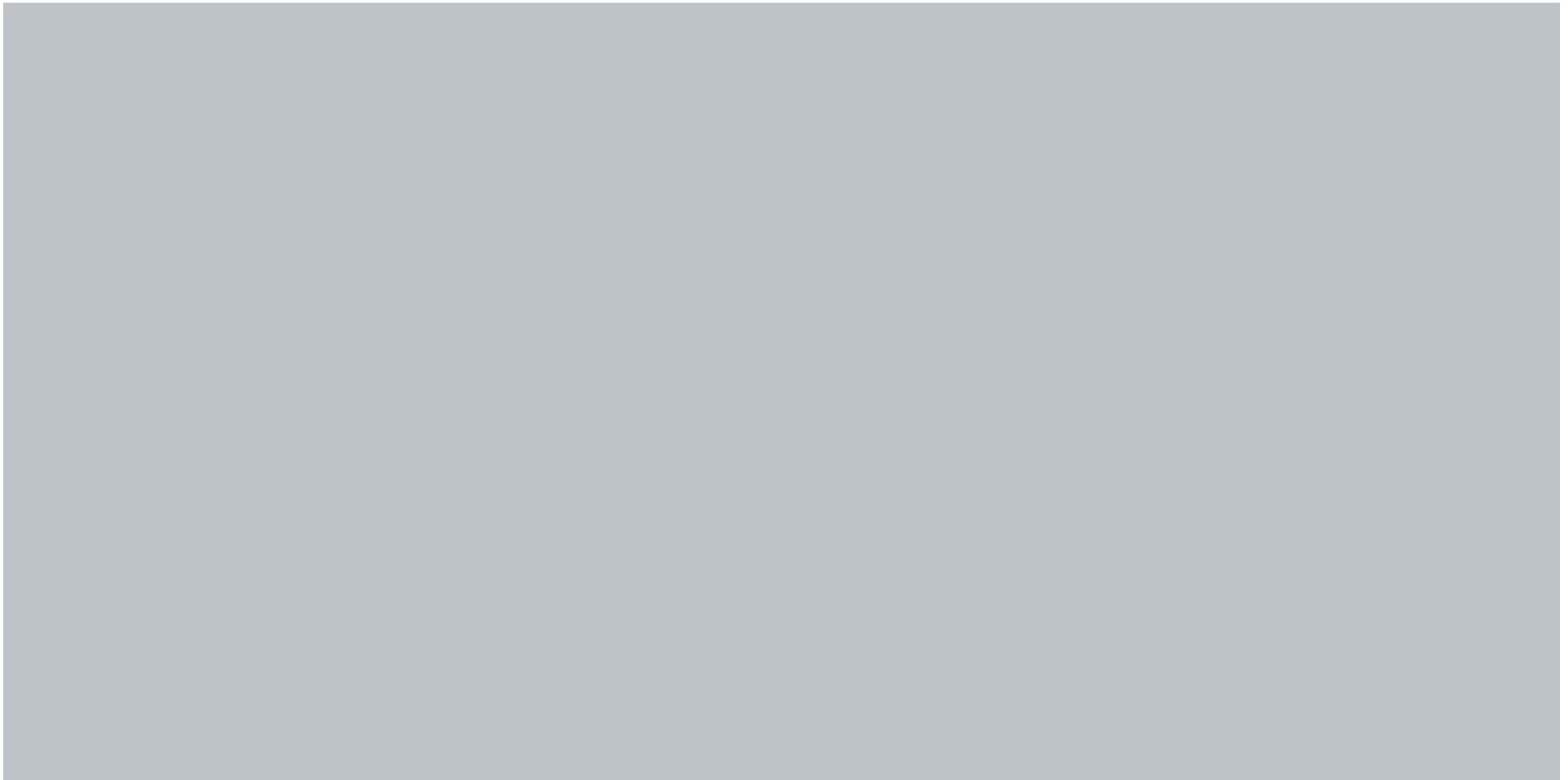


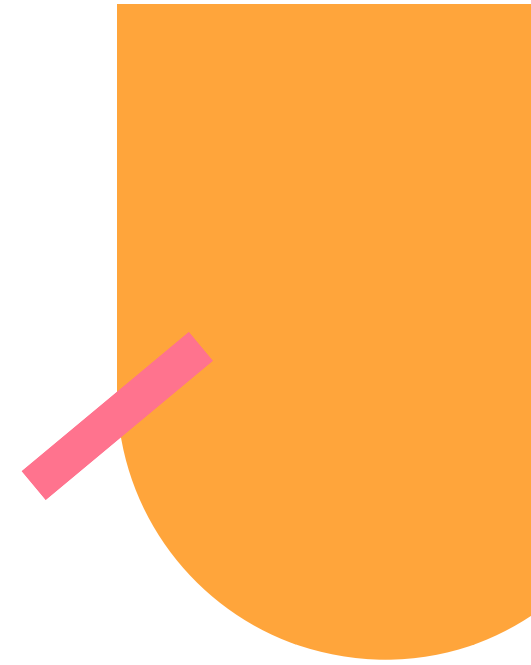
Z-Index



- auto
 - <integer>
 - <global value>
- 

CodePen





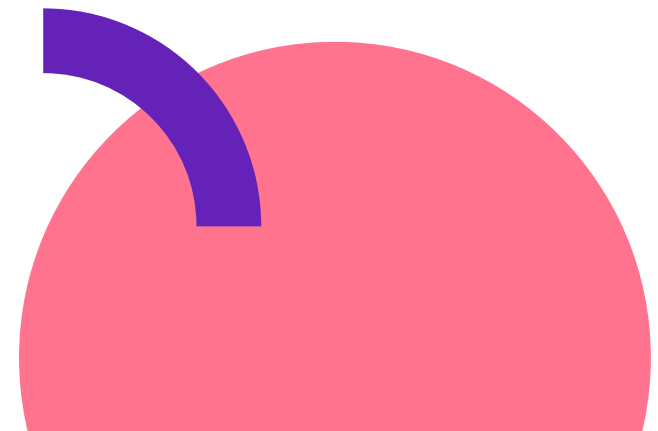
Position





Position

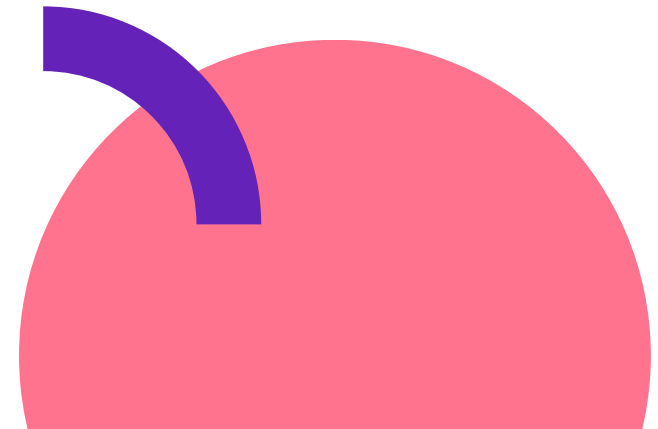
- static
- relative
- absolute
- fixed
- sticky





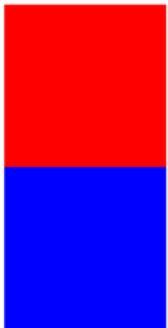
Static

- Element is positioned according to the normal flow of the document.
- Top right bottom and left have no effect.

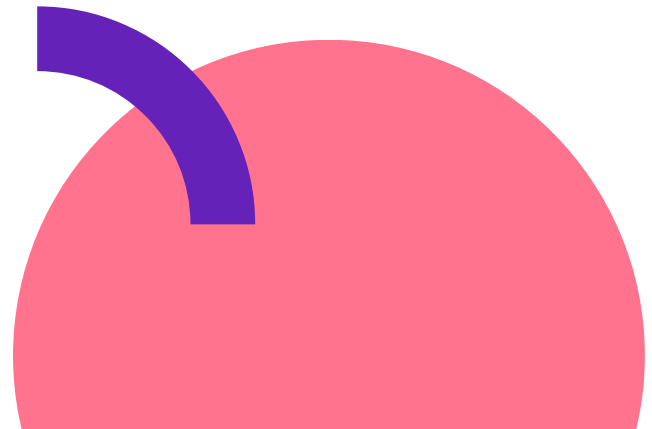




```
.box--red {  
  position: static;  
}
```



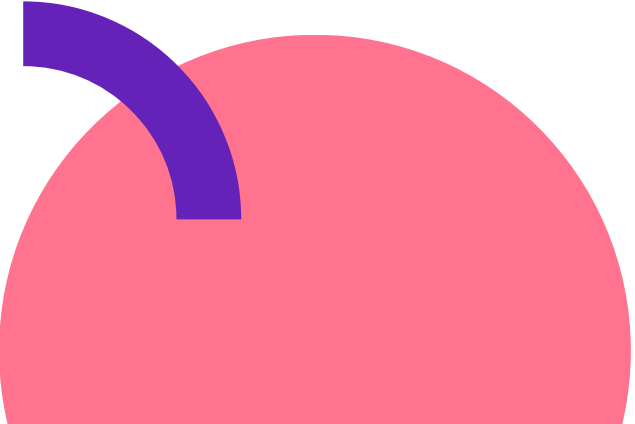
CodePen





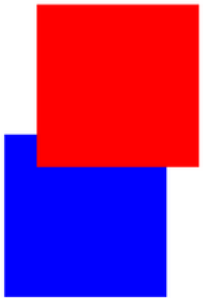
Relative



- Element is positioned according to the normal document flow, but offset relative to its normal positioning.
 - Based on top, right, bottom, and left values.
- 



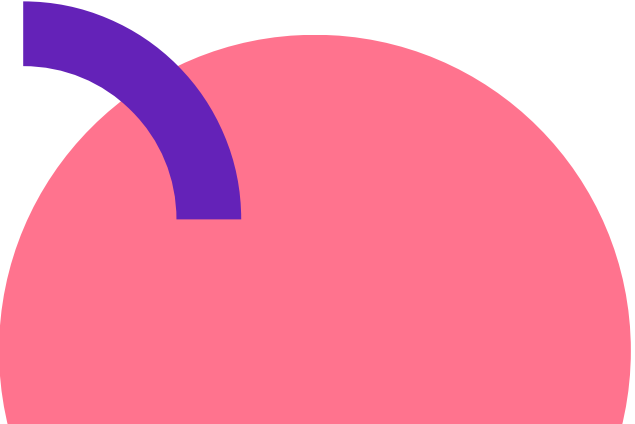
```
.box--red {  
  background: red;  
  position: relative;  
  top: 20px;  
  left: 20px;  
}
```





Absolute



- Element is removed from normal document flow.
 - Positioned relative to closest positioned ancestor.
 - Top, right, bottom, left values determine final position.
- 



```
.box--red {  
  background: red;  
  position: absolute;  
}
```





```
.box--red {  
  background: red;  
  position: absolute;  
  top: 20px;  
  left: 20px;  
}
```

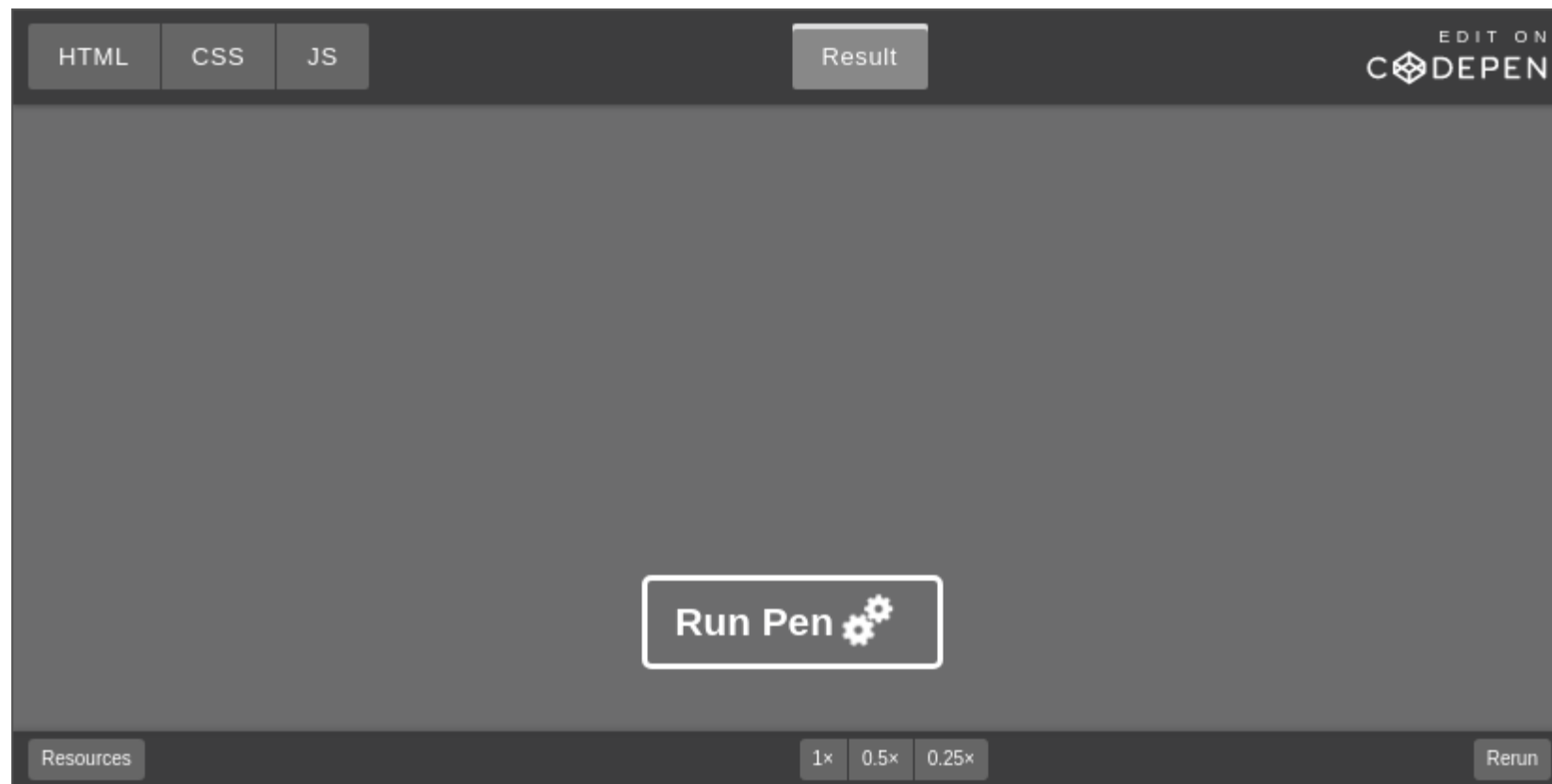




```
.container {  
  ...  
  position: relative;  
}  
  
.box--red {  
  background: red;  
  position: absolute;  
  top: 20px;  
  left: 20px;  
}
```


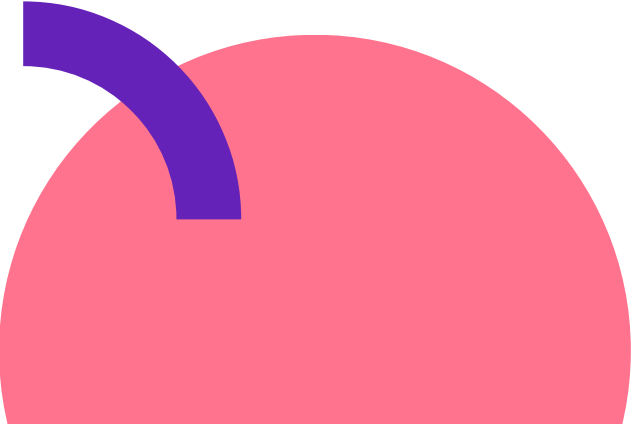


CodePen




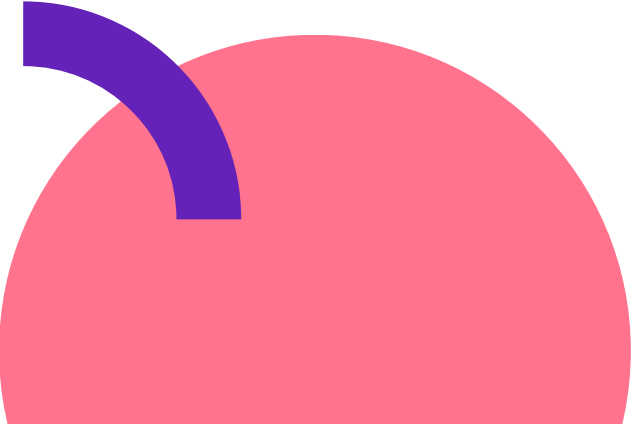


Fixed

- Element is removed from normal document flow.
 - Positioned relative to the containing block established by the viewport.
 - Top, right, bottom, left values determine final position.
- 
- 



Sticky

- Element is positioned according to normal document flow then offset relative to nearest scrolling ancestor.
 - Top, right, bottom, left values determine final position.
- 
- 

QuickTime Player File Edit View Window Help

position - CSS: Cascading Sty... Carbon | Create and share be... CSS Position

codepen.io/emmabostian/pen/wvQwQJy?editors=1100

CSS Position

Emma Bostian

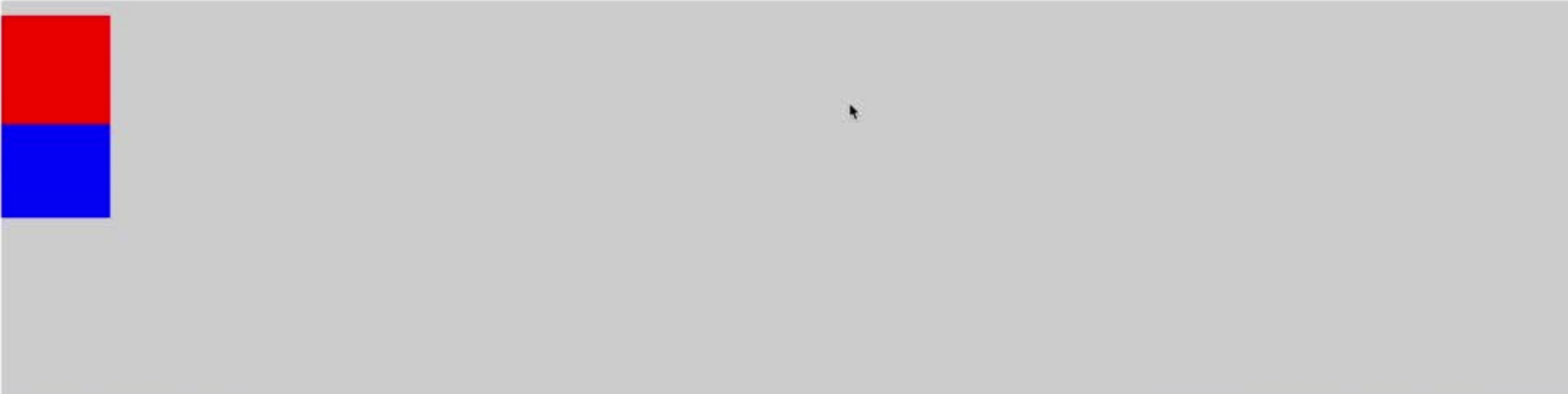
Save Settings

HTML

```
<div class="container">
  <div class="wrapper">
    <div class="box box--red"></div>
    <div class="box box--blue"></div>
  </div>
</div>
```

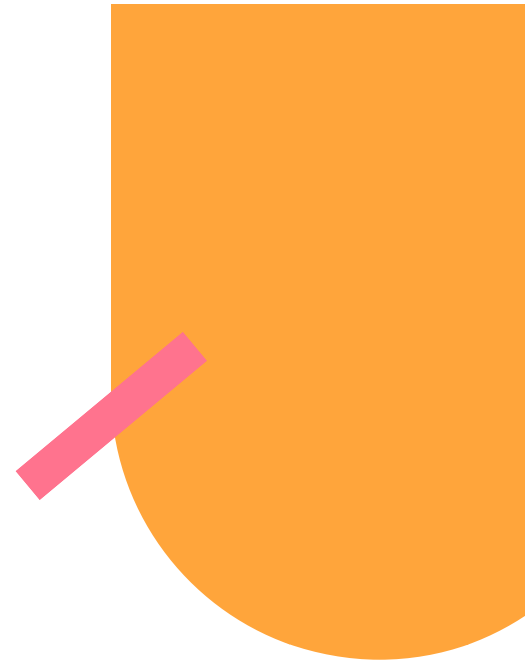
CSS

```
top: 50px;
}
.box--red {
  background: red;
  position: sticky;
}
.box--blue {
  background: blue;
}
```



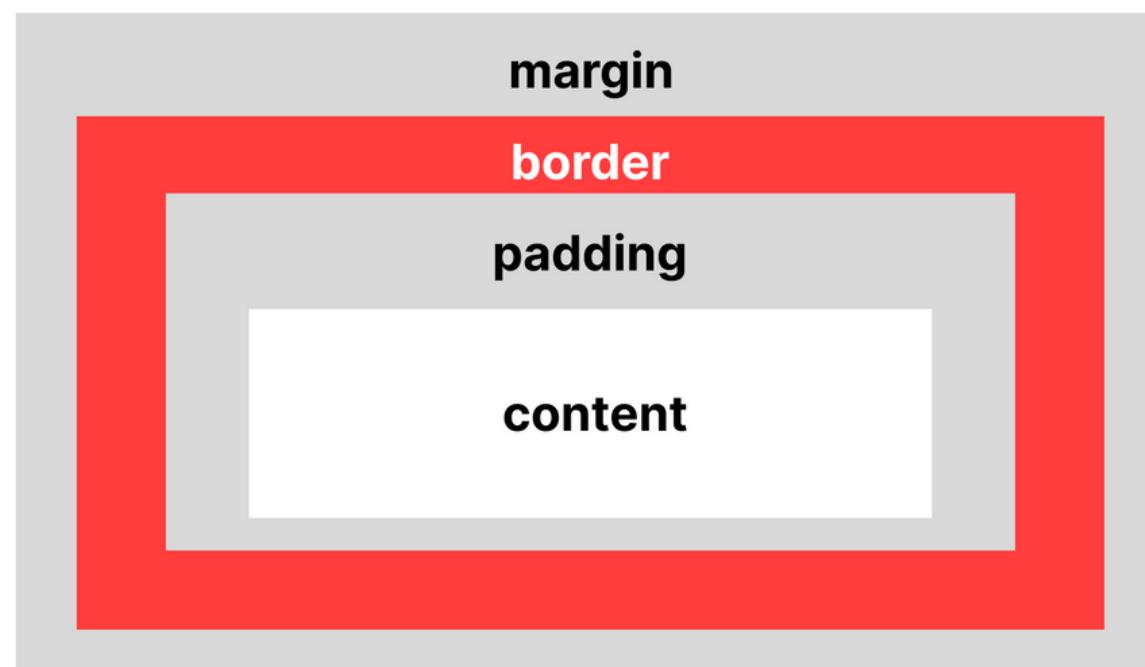
Console Assets Comments Keys

Last saved LESS THAN A MINUTE AGO Delete Add to Collection Fork Embed Export



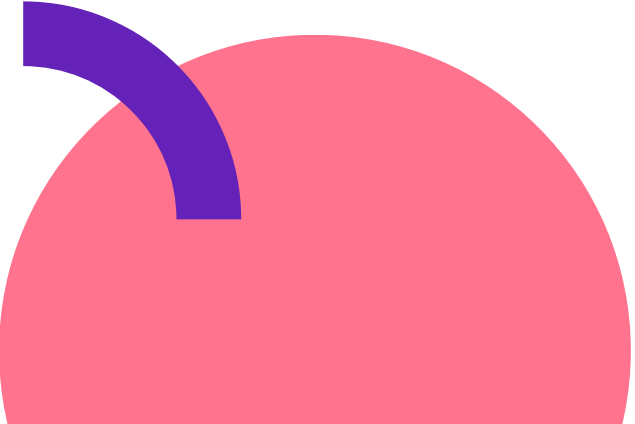
Border







Border Style

- dotted
 - dashed
 - solid
 - double
 - groove
 - ridge
 - inset
 - outset
 - none
 - hidden
- 

Border Style

A dotted border.

A dashed border.

A solid border.

A double border.

A groove border. The effect depends on the border-color value.

A ridge border. The effect depends on the border-color value.

An inset border. The effect depends on the border-color value.

An outset border. The effect depends on the border-color value.

No border.

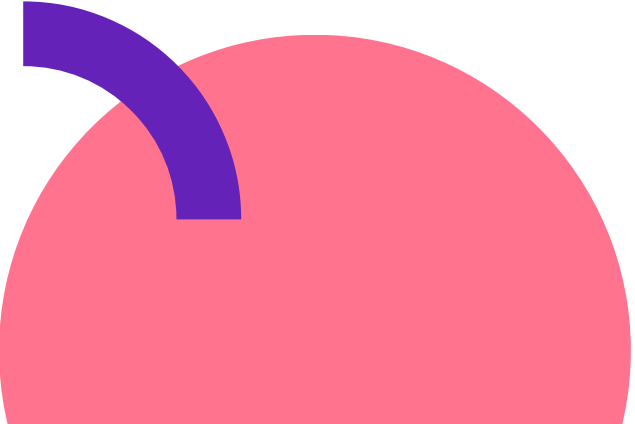
A hidden border.

A mixed border.

Source



Border Width

- px
 - pt
 - cm
 - em
 - thin | medium | thick
- 

Border Width

5px border-width

medium border-width

2px border-width

thick border-width

Source



Border Color



- name
 - hex
 - RGB
 - HSL
 - transparent
- 

Border Color

Red border

Green border

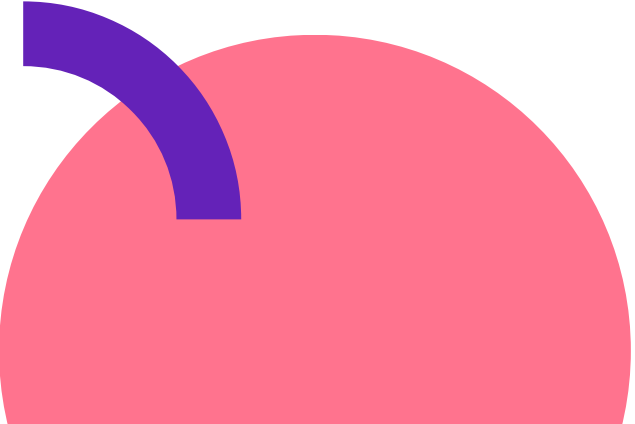
Blue border

Source



Border Sides



- `border-top-style`
 - `border-right-style`
 - `border-bottom-style`
 - `border-left-style`
- 



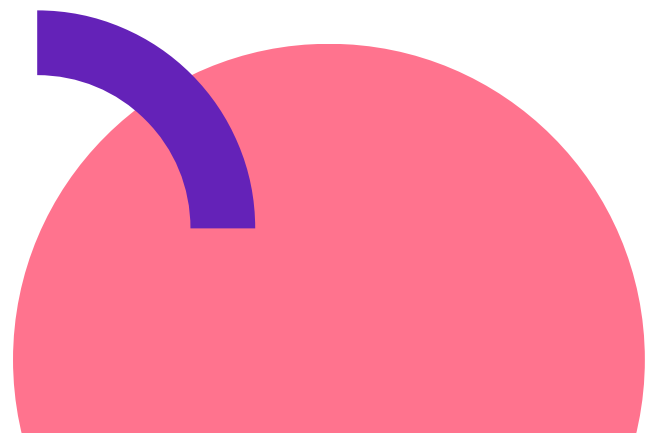
Border Shorthand

- border-width
 - border-style (required)
 - border-color
- 

Border Shorthand



```
p {  
  border-style: dotted;  
  border-width: 2px;  
  border-color: blue;  
}  
  
p {  
  border: 2px dotted blue;  
}
```

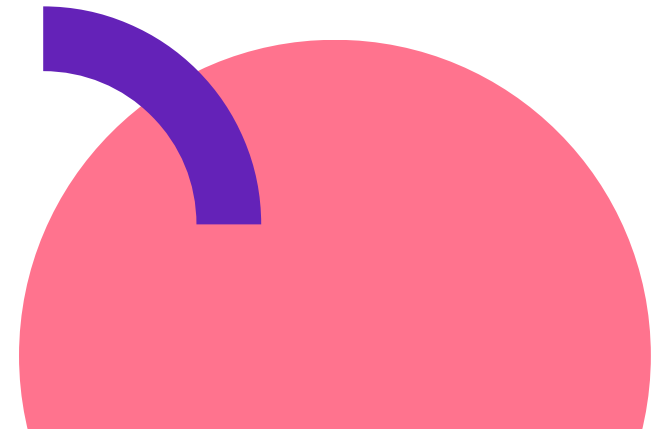




Border Radius



- px
- %



Border Radius

CSS Demo: border-radius RESET

```
border-radius: 30px;
```

```
border-radius: 25% 10%;
```


```
border-radius: 10% 30% 50% 70%;
```

```
border-radius: 10% / 50%;
```

```
border-radius: 10px 100px / 120px
```

```
border-radius: 50% 20% / 10% 40%;
```

This is a box with rounded corners.



Border Radius

CSS Demo: border-radius RESET

```
border-radius: 30px;
```

```
border-radius: 25% |10%;
```

```
border-radius: 10% 30% 50% 70%;
```

```
border-radius: 10% / 50%;
```

```
border-radius: 10px 100px / 120px
```

```
border-radius: 50% 20% / 10% 40%;
```

This is a box with rounded corners.

Border Radius

CSS Demo: border-radius RESET

```
border-radius: 30px;
```

```
border-radius: 25% 10%;
```

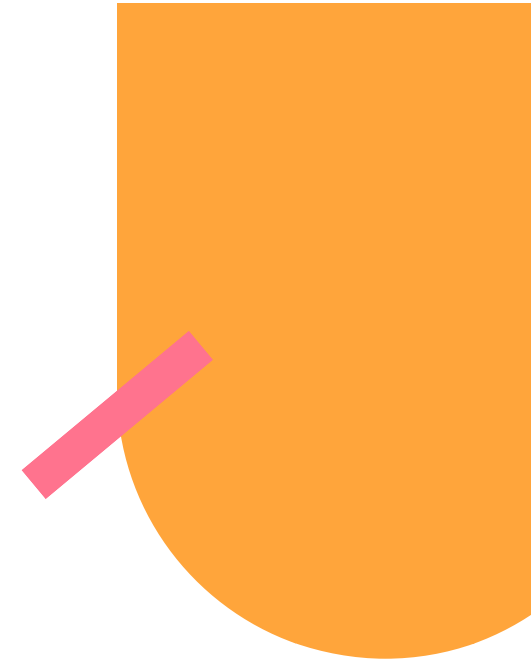
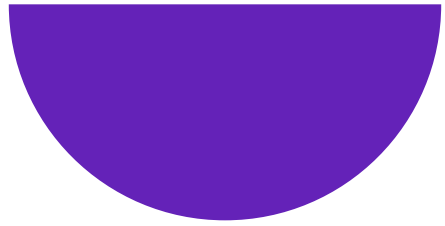
```
border-radius: 10% 30% 50% 70%;
```

```
border-radius: 10% / 50%;
```

```
border-radius: 10px 100px / 120px
```

```
border-radius: 50% 20% / 10% 40%;
```

This is a box with rounded corners.

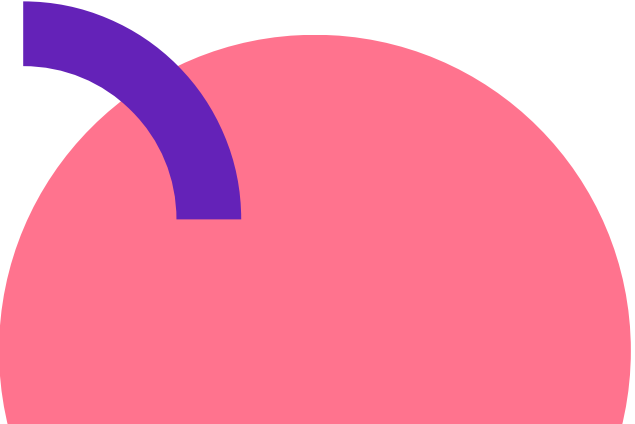


Background





Background

- background-color
 - background-image
 - background-repeat
 - background-size
 - background-position
 - background (shorthand)
- 



Background Color

- color name
 - hex
 - RGB
- 



Background Color



```
background-color: blue;
```





Background Image

```
background-image: url("cat.jpg");
```





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

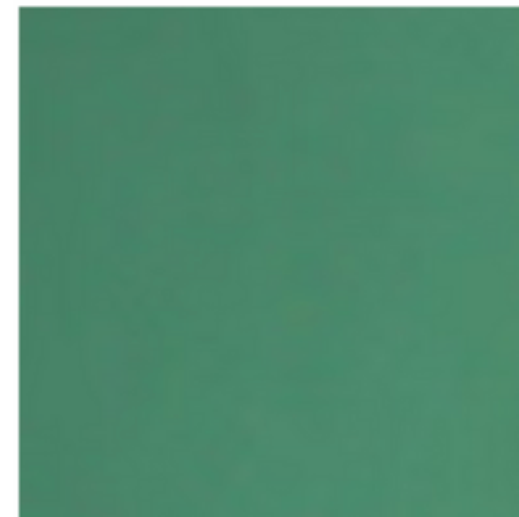


```
.box {  
  width: 200px;  
  height: 200px;  
  background-image: url('https://images.unsplash.com/photo-1514888286974-  
6c03e2ca1dba?ixlib=rb-  
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D&auto=format&  
fit=crop&w=1743&q=80');  
}
```

Image to add

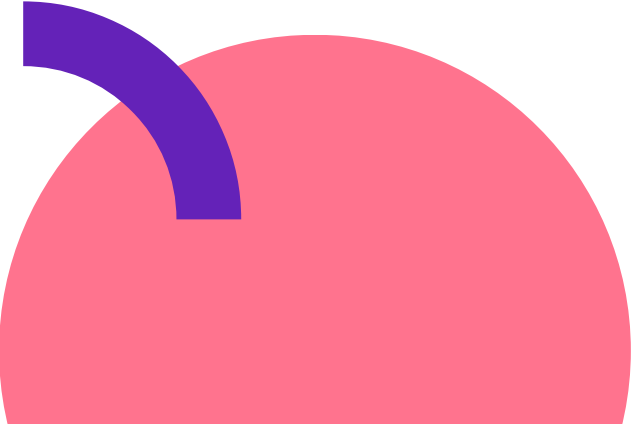


Output





Background Size

- auto
 - length
 - percentage
 - cover
 - contain
 - initial
 - inherit
- 

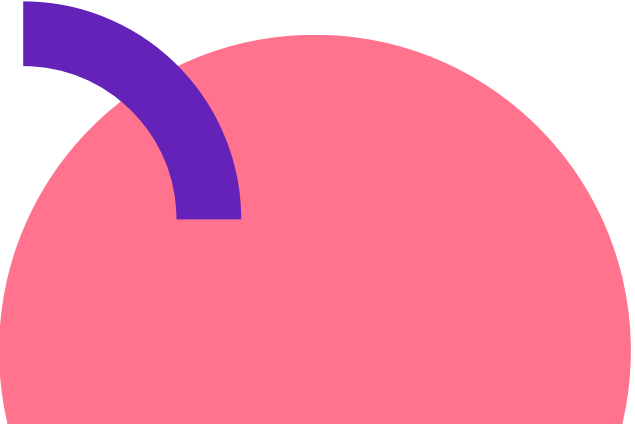


Background Size

`background-size: 70% 60%;`

`background-size: 200px 180px;`

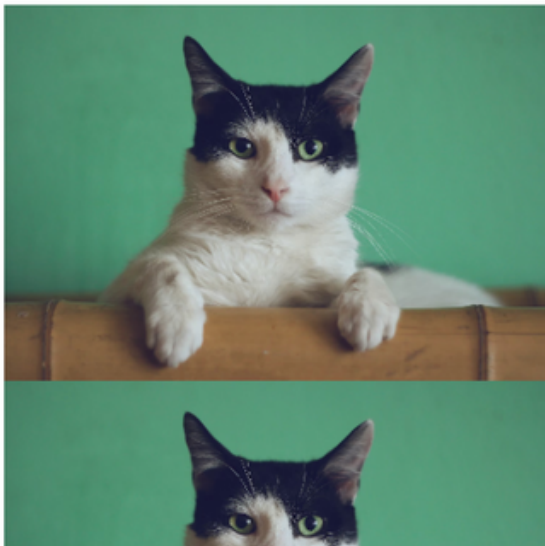
`background-size: cover;`





```
.box {  
  width: 200px;  
  height: 200px;  
  background-image: url('https://images.unsplash.com/photo-1514888286974-  
6c03e2ca1dba?ixlib=rb-  
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D&auto=format&  
fit=crop&w=1743&q=80');  
  background-size: contain;  
}
```

Output





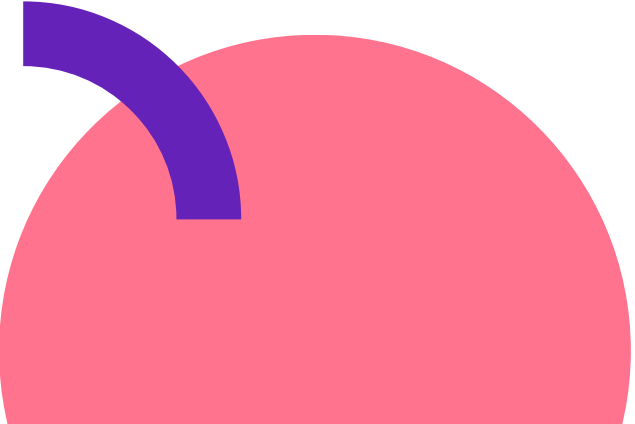
```
.box {  
  width: 200px;  
  height: 200px;  
  background-image: url('https://images.unsplash.com/photo-1514888286974-  
6c03e2ca1dba?ixlib=rb-  
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D&auto=format&  
fit=crop&w=1743&q=80');  
  background-size: cover;  
}
```

Output





Background Position

- left top
 - left center
 - right top
 - right bottom
 - center top
 - %X %y
 - xpos ypos
- 



Background Position

`background-position: center top;`

`background-position: 50% 50%;`

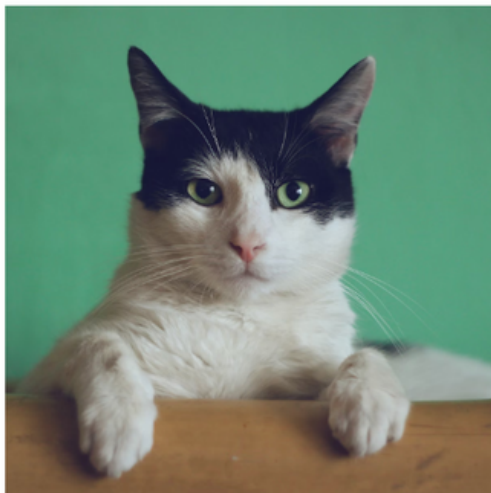
`background-position: 150px 50px;`





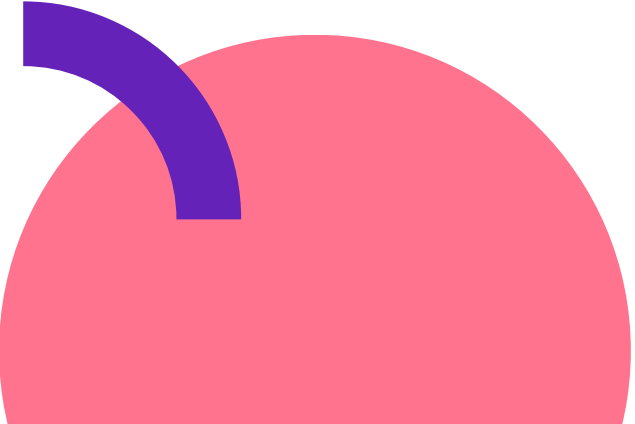
```
.box {  
  width: 200px;  
  height: 200px;  
  background-image: url('https://images.unsplash.com/photo-1514888286974-  
6c03e2ca1dba?ixlib=rb-  
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D&auto=format&  
fit=crop&w=1743&q=80');  
  background-size: cover;  
  background-position: center;  
}
```

Output





Background Repeat

- repeat (both horizontal and vertical)
 - repeat-x
 - repeat-y
 - no-repeat
- 



Background Repeat

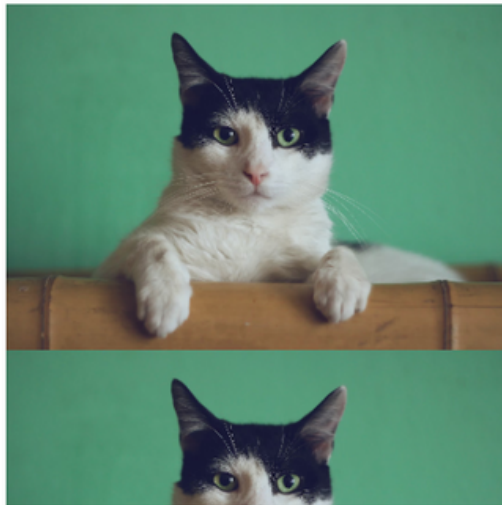
```
background-repeat: repeat-x;
```





```
.box {  
  width: 200px;  
  height: 200px;  
  background-image: url('https://images.unsplash.com/photo-1514888286974-  
6c03e2ca1dba?ixlib=rb-  
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D&auto=format&  
fit=crop&w=1743&q=80');  
  background-size: contain;  
}
```

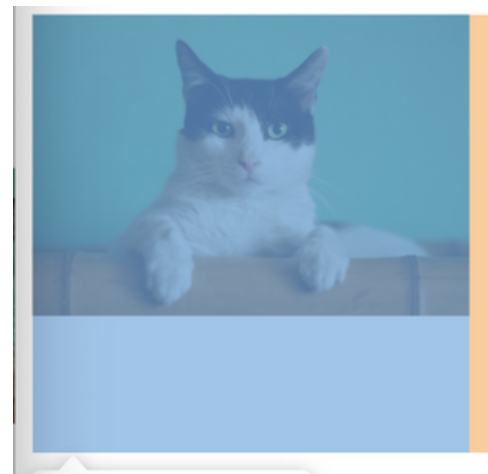
Output

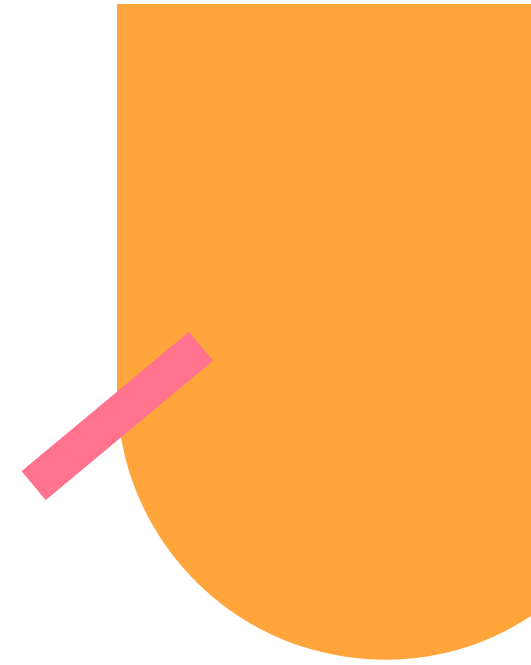
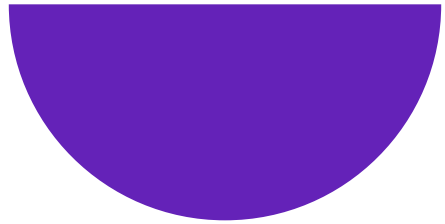




```
.box {  
  width: 200px;  
  height: 200px;  
  background-image: url('https://images.unsplash.com/photo-1514888286974-  
6c03e2ca1dba?ixlib=rb-  
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D&auto=format&  
fit=crop&w=1743&q=80');  
  background-size: contain;  
  background-repeat: no-repeat;  
}
```

Output





Drop Shadow

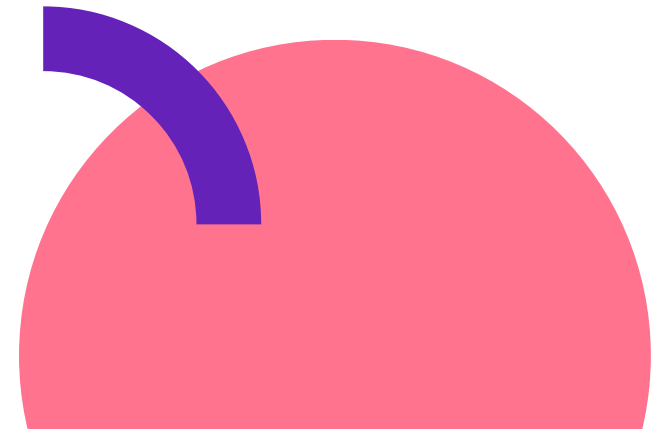




Drop Shadow

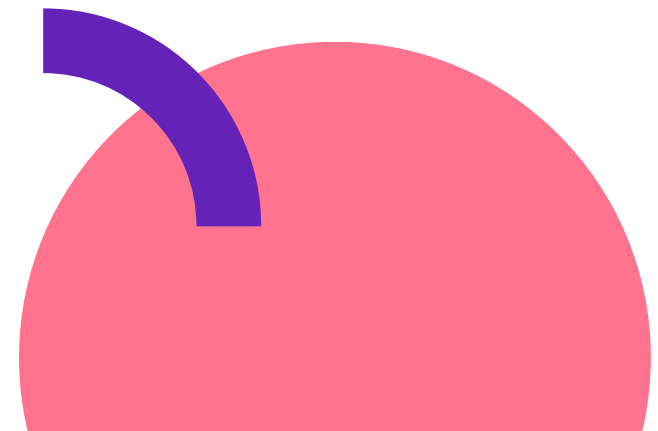
- `offset-x`
- `offset-y`
- `blur-radius`
- `color`

```
filter: drop-shadow(16px 16px 10px black);
```



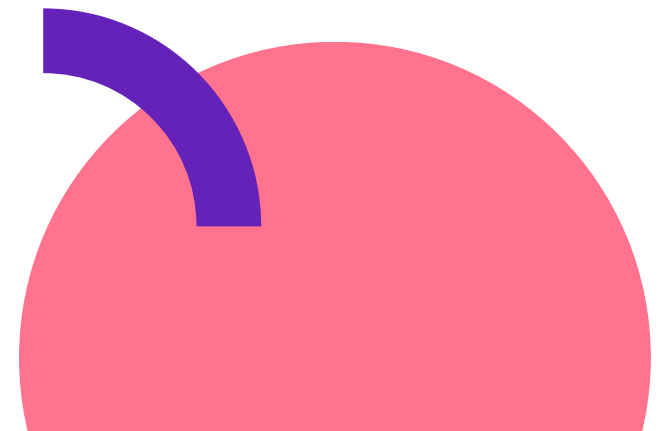
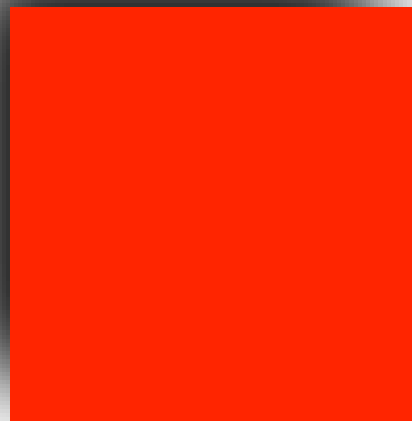


```
.block {  
  width: 100px;  
  height: 100px;  
  background: red;  
  filter: drop-shadow(10px 10px 10px black);  
}
```



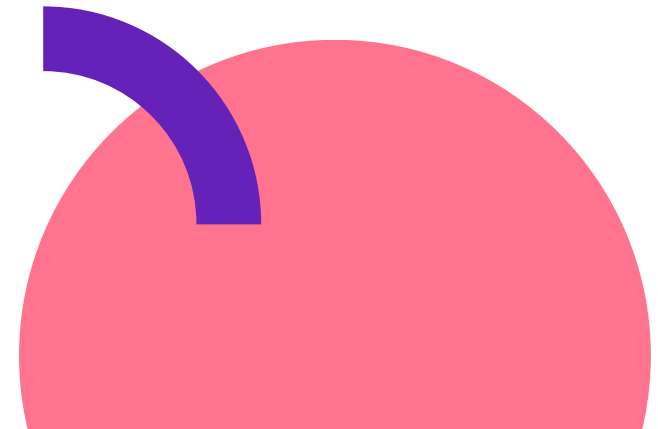


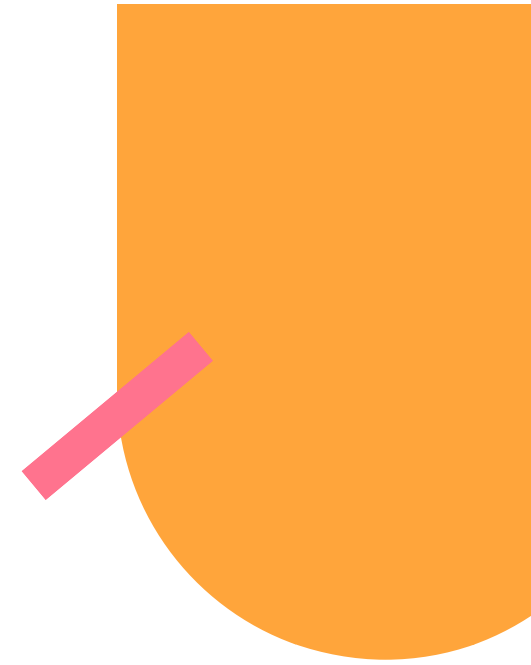
```
.block {  
  width: 100px;  
  height: 100px;  
  background: red;  
  filter: drop-shadow(-10px -10px 10px black);  
}
```





```
.block {  
  width: 100px;  
  height: 100px;  
  background: red;  
  filter: drop-shadow(-10px -10px 4px black);  
}
```



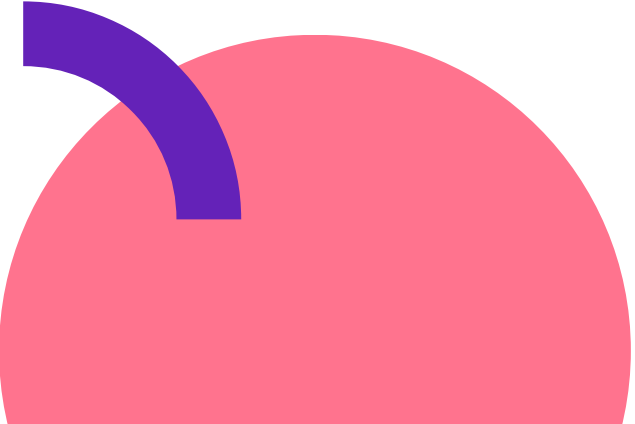











Cursor














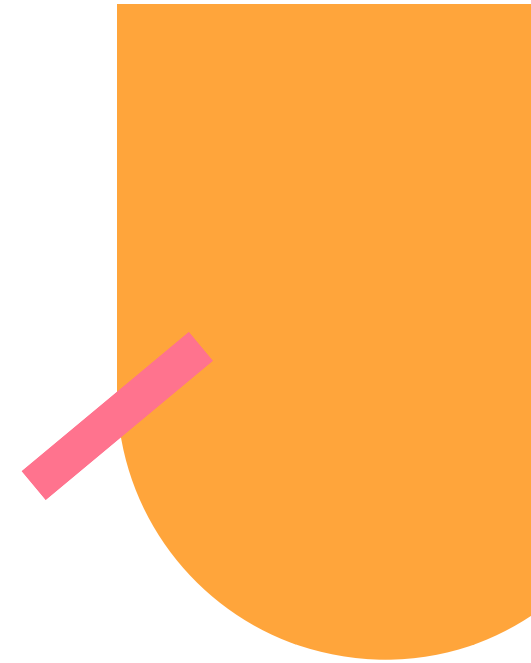


Cursor

- help
 - wait
 - crosshair
 - not-allowed
 - zoom-in
 - grab
- 

Category	Keyword	Example	Description
General	auto		The UA will determine the cursor to display based on the current context. E.g., equivalent to <code>text</code> when hovering text.
	default		The platform-dependent default cursor. Typically an arrow.
	none		No cursor is rendered.
	context-menu		A context menu is available.
Links & status	help		Help information is available.
	pointer		The cursor is a pointer that indicates a link. Typically an image of a pointing hand.
	progress		The program is busy in the background, but the user can still interact with the interface (in contrast to <code>wait</code>).
	wait		The program is busy, and the user can't interact with the interface (in contrast to <code>progress</code>). Sometimes an image of an hourglass or a watch.
	Selection	cell	
crosshair			Cross cursor, often used to indicate selection in a bitmap.
text			The text can be selected. Typically the shape of an I-beam.

	<code>vertical-text</code>		The vertical text can be selected. Typically the shape of a sideways I-beam.
Drag & drop	alias		An alias or shortcut is to be created.
	copy		Something is to be copied.
	move		Something is to be moved.
	no-drop		An item may not be dropped at the current location. [Firefox bug 275173](https://bugzil.la/275173): On Windows and macOS, <code>no-drop</code> is the same as <code>not-allowed</code> .
	not-allowed		The requested action will not be carried out.
	grab		Something can be grabbed (dragged to be moved).
	grabbing		Something is being grabbed (dragged to be moved).
	all-scroll		Something can be scrolled in any direction (panned). [Firefox bug 275174](https://bugzil.la/275174): On Windows, <code>all-scroll</code> is the same as <code>move</code> .
	col-resize		The item/column can be resized horizontally. Often rendered as arrows pointing left and right with a vertical bar separating them.
	row-resize		The item/row can be resized vertically. Often rendered as arrows pointing up and down with a horizontal bar separating them.

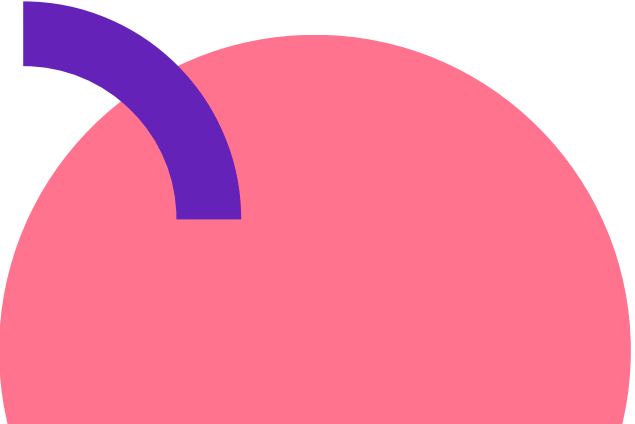


Pseudo-Classes



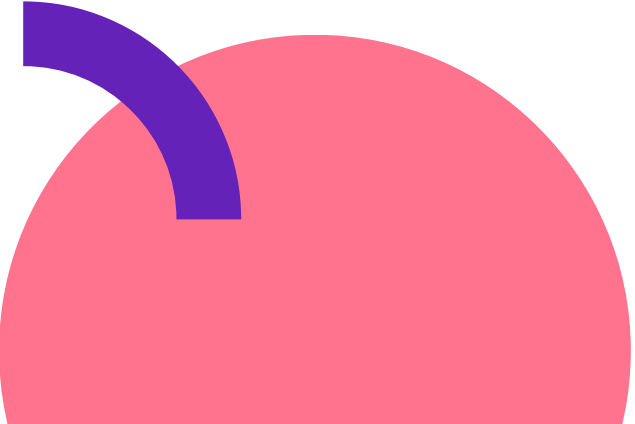


Input Pseudo-Classes

- :enabled
 - :disabled
 - :checked
 - :required
 - :optional
- 



Location Pseudo-Classes

- `:any-link`
 - `:link`
 - `:visited`
- 

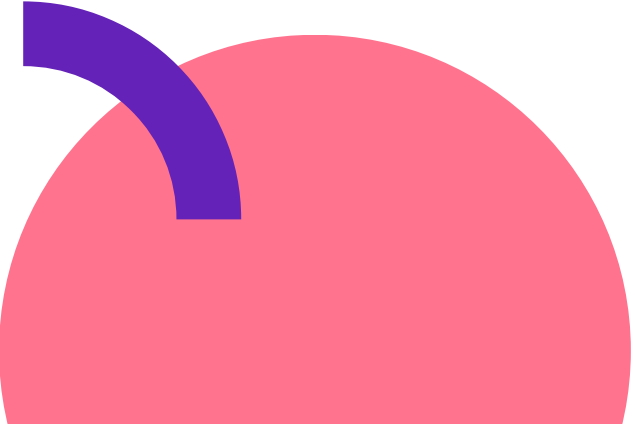


Resource State Pseudo-Classes

- `:playing`
 - `:paused`
- 

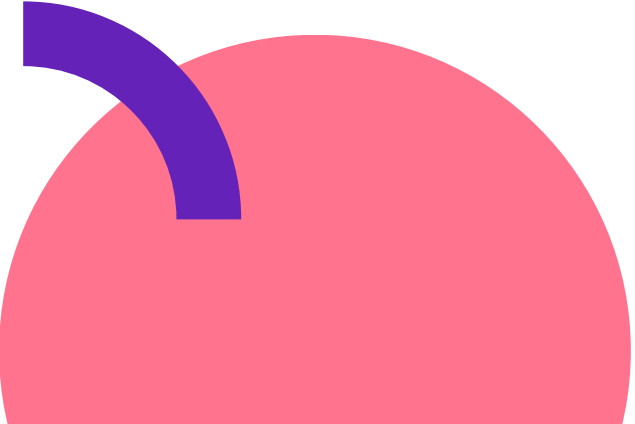



Tree-Structural Pseudo-Classes

- :root
 - :empty
 - :nth-child
 - :nth-last-child
 - :first-child
 - :last-child
 - :nth-of-type
- 

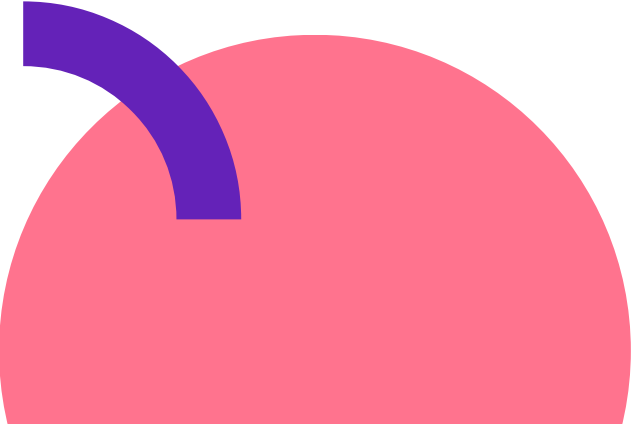




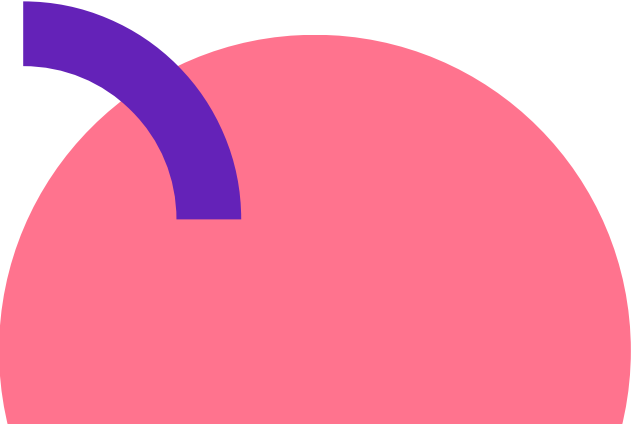
User Action Pseudo-Classes

- :hover
 - :active
 - :focus
- 



Functional Pseudo-Classes

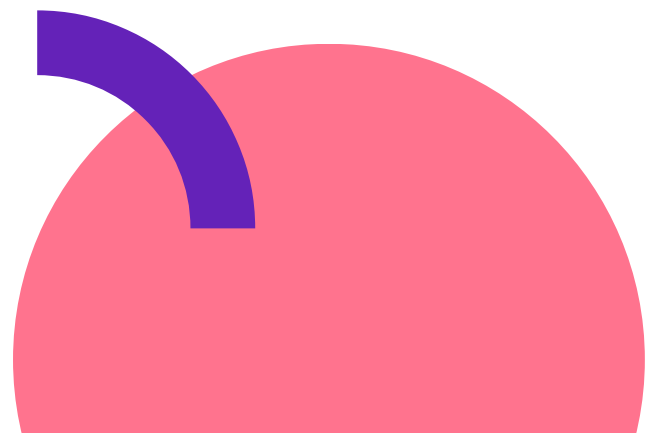
- `:is()`
 - `:not()`
- 

- 
- 
- Eggs
 - Milk
 - Butter
 - Chocolate
 - Cat food
- 

- Eggs
- Milk
- Butter
- **Chocolate**
- Cat food

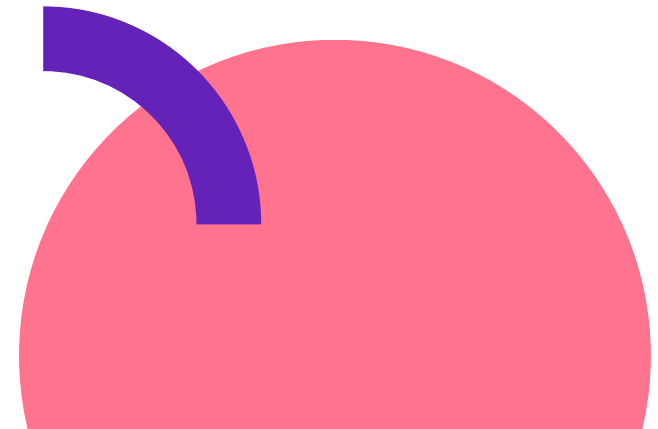


```
li:nth-of-type(4) {  
  color: red;  
}
```





[Home](#) [About](#) [Work](#) [Contact](#)

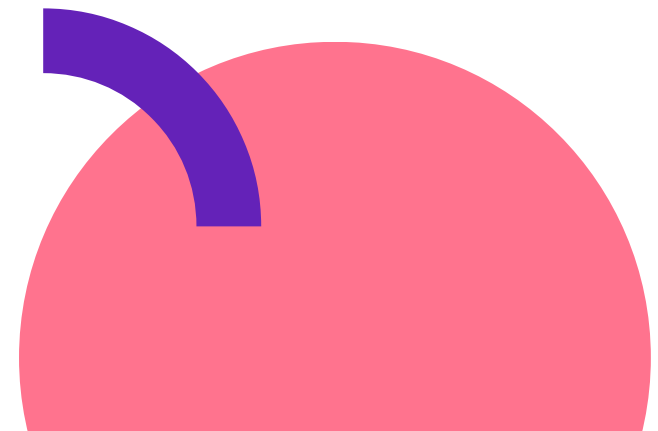




Home About Work Contact



```
● ● ●  
  
a:hover {  
  font-weight: bold;  
}
```

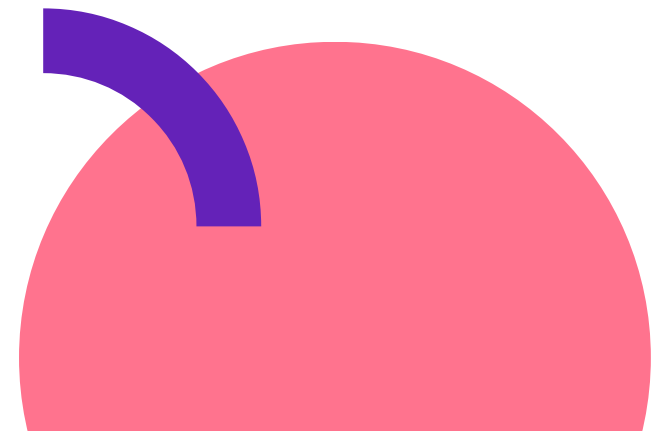




Remember me



```
<input id="remember-me" type="checkbox">  
<label for="remember-me">Remember Me</label>
```



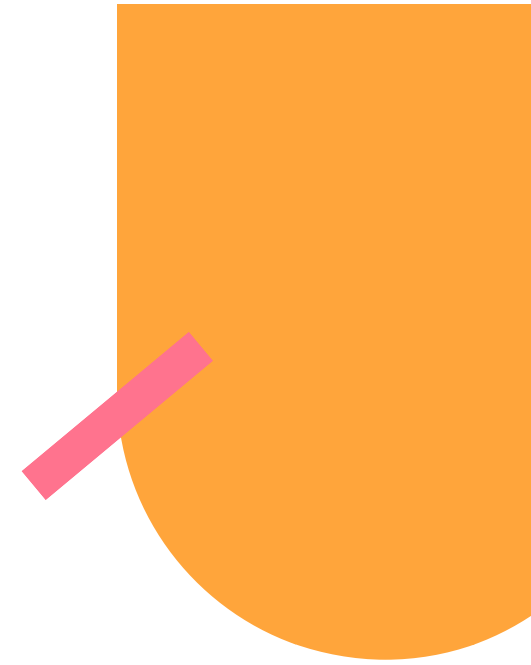
Remember me



```
<input id="remember-me" type="checkbox">  
<label for="remember-me">Remember Me</label>
```



```
input[type="checkbox"]:checked + label {  
  color: red;  
}
```

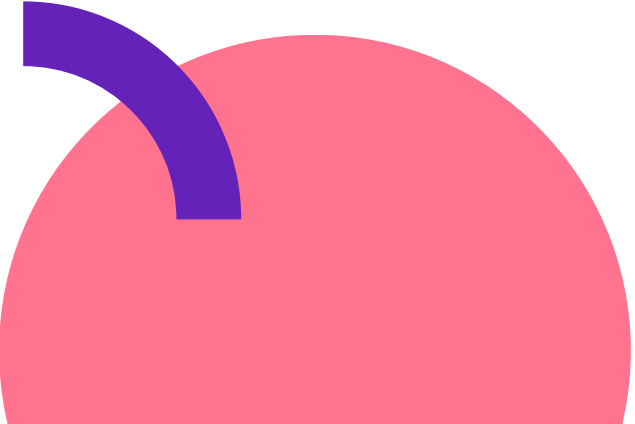


Pseudo-Elements





Pseudo Elements

- `::before`
 - `::after`
 - `::placeholder`
 - `::first-line`
- 



```
<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Dolore nostrum fuga soluta unde maiores? Mollitia, doloribus labore, natus hic sint, et sit repellat tempora dolores deleniti pariatur illum veritatis laudantium!</p>
```



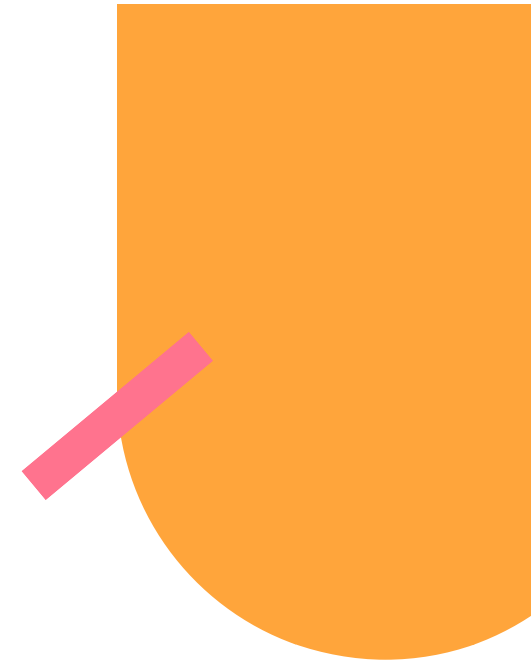
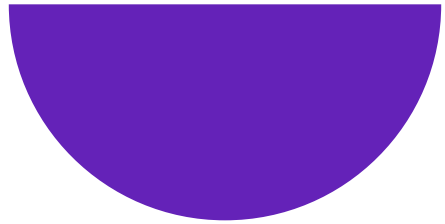
```
p::first-line {  
  color: red;  
}
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Dolore nostrum fuga soluta unde maiores? Mollitia, doloribus labore, natus hic sint, et sit repellat tempora dolores deleniti pariatur illum veritatis laudantium!

Specificity

ID	Class Attribute Selectors <u>Pseudo-Classes</u>	Type <u>Pseudo-Elements</u>
#img	.text [type="radio"] :hover	p ::placeholder

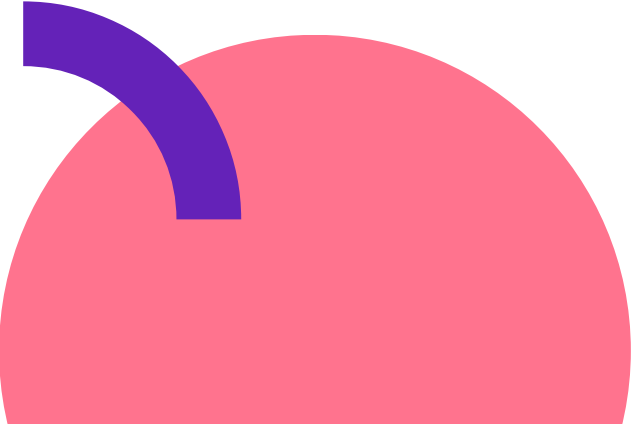


Transitions



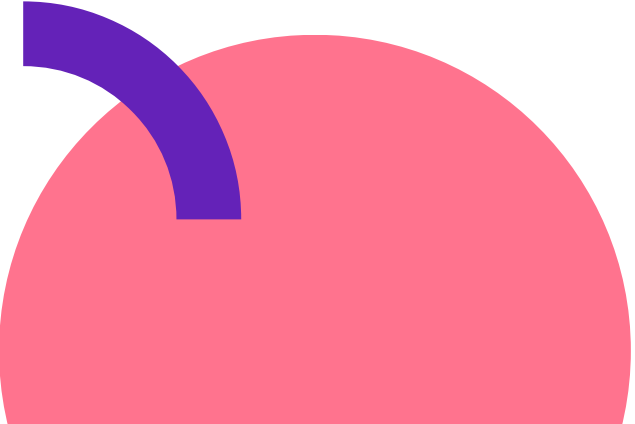


Properties

- transition-property
 - transition-duration
 - transition-timing-function
- 



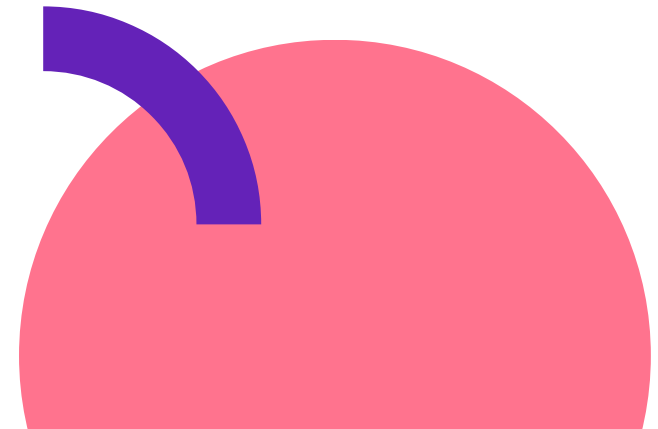
Transition Property

- The name or names of the CSS properties to which transitions should be applied
- 



Transition Duration

- The duration over which a transition should occur





Transition Timing Function

- The function that defines how properties should be computed over time
- 

[View source](#)

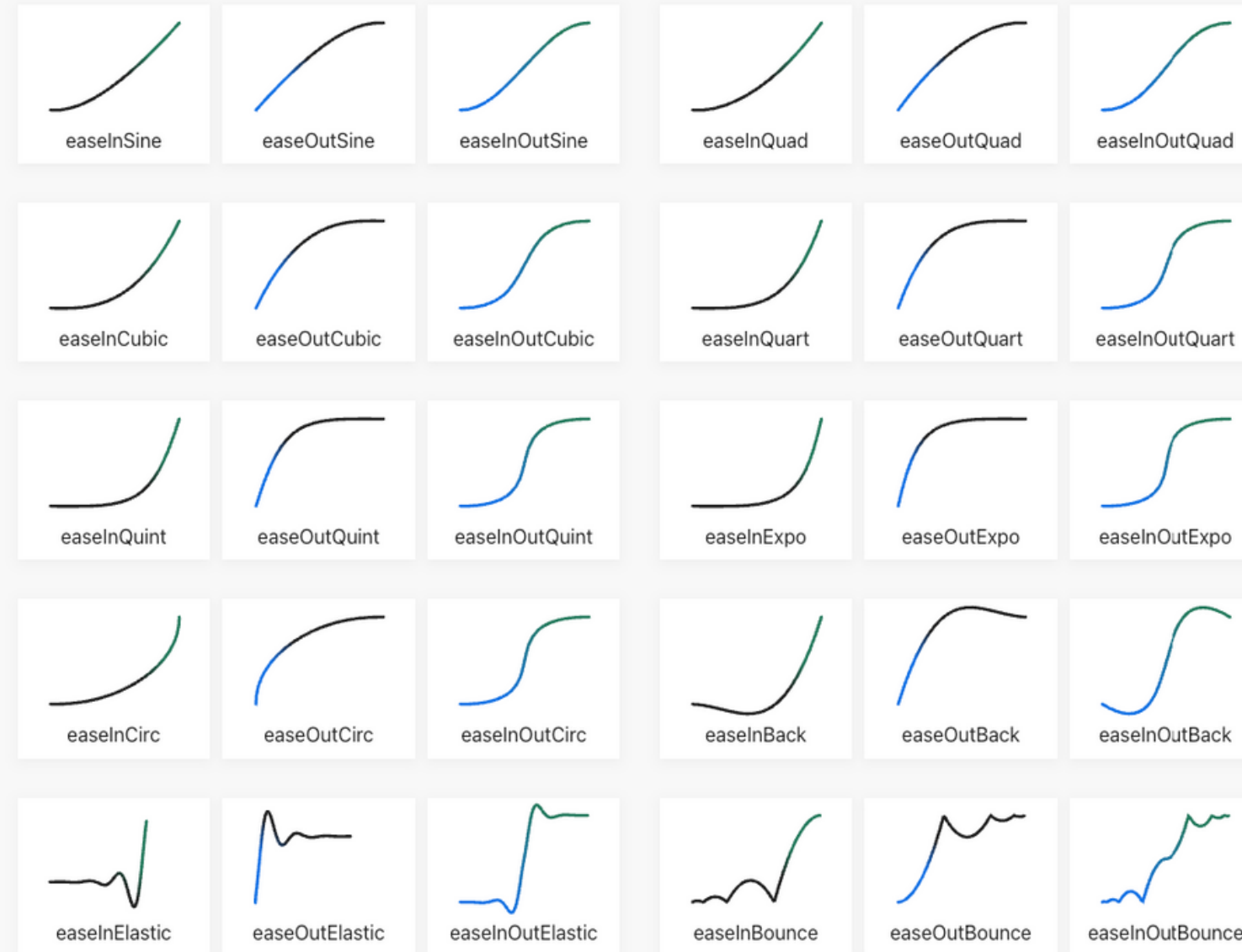
Easing functions specify the rate of change of a parameter over time.

Objects in real life don't just start and stop instantly, and almost never move at a constant speed. When we open a drawer, we first move it quickly, and slow it down as it comes out. Drop something on the floor, and it will first accelerate downwards, and then bounce back up after hitting the floor.

This page helps you choose the right easing function.

 [Open Source](#)

Help translate site to your language



[Andrey Sitnik](#) and [Ivan Solovev](#)

Auto theme ▾

English ▾



Transition Shorthand


transition: <property> <duration> <timing function> <delay>



CodePen



What we've learned

- The Box Model
 - Border
 - Background
 - Drop Shadow
 - Pseudo-classes & elements
 - Transitions
- 



Next Up

Let's build the rest of the home page.

