LESSON 16
RESPONSIVE +

POSITION

-Positioning an HTML element on a webpage gets all these properties by default - look at `position: static;` we haven't talked about it before.

```
// All elements get these
properties by default

.every-element {
  display: block;
  position: static;
  width: 100%
}
```

YOU'VE SEEN THIS 1000X

Basic HTML element code:

```html
<main>
  <section>Thing</section>
  <div>Thing</div>
  <nav>Nav Things</nav>
</main>
```

Produces this output:

Thing
Thing
Nav Things

WHY?

Each element takes 100% width and fills height based on content between the tags. Next element positions itself directly after the one before it, so you get this pattern.

```
<section>  Thing
    <div>  Thing
    <nav>  Nav Things
```

OTHER POSITIONS

There are other layout methods though...

```
position: relative;
position: fixed;
position: absolute;
```

BIG IDEA

Locked 2D layouts (x + y axes):

```
position: static;
```

Adjustable 3D layouts (x, y and z axes):

```
position: relative;
position: fixed;
position: absolute;
```

RELATIVE POSITION

What happens to our HTML example now?

```css
.custom-element {
  display: block;
  position: relative;
  width: 100%;
}
```

```html
<main>
  <section>Thing</section>
  <div>Thing</div>
  <nav>Nav Things</nav>
</main>
```

NOTHING!

Position: relative; does nothing to your code out of the box.

```css
.custom-element {
  display: block;
  position: relative;
  width: 100%;
}
```

```html
<main>
  <section>Thing</section>
  <div>Thing</div>
  <nav>Nav Things</nav>
</main>
```

`<section>`	Thing
`<div>`	Thing
`<nav>`	Nav Things

POSITION: RELATIVE HAS TWO PARTY TRICKS

1) You can now position the element RELATIVE TO ITSELF! (ie, you can move it based on where it should be in the DOM)

2) You can control the z-axis of the element with `z-index`

HOW?

Say hello to some new CSS properties:

```css
.your-element {
  top: 100px;
  bottom: -5%;
  left: 2em;
  right: 0.7rem;
  z-index: 1;
}
```

MOVEMENT ON X/Y AXES

When you move a relative element around in the DOM it pops out on top of the others RELATIVE TO ITSELF.

```
.every-element {
    position: relative;
    top: -100px;
    left: 50px;
}
```

Relative item

Relative item

Relative item on the move... (top: -100px, left: 50px;)

Relative item

MOVEMENT ON Z AXIS

But you can easily put it behind the other elements with `z-index`.

```
.every-element {
    position: relative;
    top: -100px;
    left: 50px;
    z-index: -1;
}
```

Relative item

Relative item

| Relative item on the move   (top: -100px, left: 50px;)
Relative item

CODE ALONG

Assignment #1 - Position Relative

POSITION: ABSOLUTE HAS ONLY ONE PARTY TRICK

It will pop your element out of the DOM RELATIVE TO THE PAGE (ie, you can move it based from the top of the page)

MOVEMENT ON X, Y AXES

When you move a relative element around in the DOM it pops out on top of the others RELATIVE TO THE PAGE.

```
.your-element {
  position: absolute;
  top: 5px;
  left: 900px;
}
```

ion

Absolute item, look at me! I'm flying! How did I get up here? What's going on with me these days? I feel a little, light headed perhaps...

MOVEMENT ON Z AXIS

It can be moved on top / below other elements with z-index. By default, it sits on top of the elements.

```
.your-element {
  position: absolute;
  top: 5px;
  left: 900px;
}
```

Absolute item, look at me! I'm flying! How did I get up here? What's going on with me these days? I feel a little, light headed perhaps...

CODE ALONG

Assignment #1 - Position Absolute

BONUS ROUND

You can absolutely position an element in a relatively positioned container.

ABSOLUTE IN RELATIVE

```css
.relative-container {
  border: 1px solid #222;
  height: 400px;
  position: relative;
  width: 400px;
}

.absolute-item-trapped {
  background-color: maroon;
  border: 1px solid #000;
  color: white;
  height: 200px;
  left: 89px;
  position: absolute;
  top: 25px;
  width: 200px;
}
```

I'm absolute but something is holding me back. It's tough being a box in a box.

Z-INDEX GOTCHA

Be careful with `z-index`. Once you adjust the Z axis there is a strong tendency to keep adjusting other elements as your site gets more complicated. `z-index` should only be used in very targeted ways. If you have more than 2-3 z-indexed items, you are doing it wrong.

POSITION: FIXED

Kinda boring in comparison - it just docks to the viewport wherever you put it (top, left, bottom, right with 0 being the respective edge of the viewport)

CODE ALONG

Assignment #1 - Absolute in Relative / Fixed

ROOKIE MISTAKE 1

Student says, "I put `z-index: 1000;` on my element and nothing happened"

John says, "I bet you didn't put `position: relative;` on it. And what about a semicolon at the end? And while, you're at, can I get a free sandwich?"

ROOKIE MISTAKE 2

Student says, "I put a `position: absolute;` on my element and it went to the top of the screen. Why?"

John says, "I bet you didn't put a `position: relative;` container around it."

PRACTICE

Assignment #2 - Have a go at it

OFF CANVAS MENU

Think of your viewport given what you now know about position and z-index. How would you approach getting a menu to appear and disappear? (Many right answers to this question)

OFF CANVAS MENU

z-index: lower

z-index: higher

OFF CANVAS MENU

width shrinks

width grows

HOW?

Well, hello old friend - nice to see you

```
toggleClass();
```

HOW?

Well, hello old friend - nice to see you
`toggleClass();`

Let's see an example I made:

http://codepen.io/staypuftman/pen/dGOMYO

CODE ALONG
Assignment #3 - Off Canvas Menus

NEXT TIME

Exit tickets: Lesson 18 should be...
John gone next time, dry your eyes
Wed: Work on Finals
Finish Your Final Project JS on Wednesday,
submit via Github