Types, Coercion, and Equality

Static Typing vs. Dynamic Typing

Static Typing

```
int x = 5;

public int fn(String str) {
  int x = 4;
  return x;
}
```

Addressed at Compile Time

dynamic typing

```
var x = 5;

function fn(str) {
  var x = 4;
  return x;
}
```

Addressed at Runtime

Strong Typing

Ruby is Strongly Typed

```
2.0.0p247 :004 >   1 + "1"
TypeError: String can't be coerced into Fixnum
    from (irb):3:in `+'
    from (irb):3
    from /Users/jlembeck/.rvm/rubies/ruby-2.0.0-
p247/bin/irb:13:in `<main>'
```

Weak typing

JavaScript is Weakly Typed

```
> 1 + "1";
'11'
```

Weak typing and Coercion

3 + true === 4

true => 1

"5" / "2" === 2.5

5 / "sandwich" //=> NaN
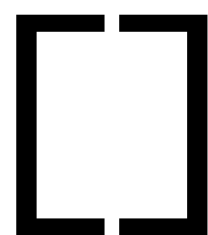
NaN?

Not a Number

5 / "sandwich" === NaN ?

NaN !== NaN

isNaN

isNaN(NaN)

Arrays?

[] + [] === " "
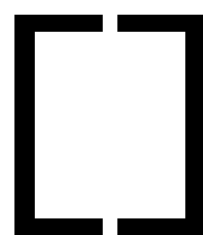
```
> [1,2] + [3,4]
'1,23,4'
```

```
{} + {} === '[object Object]'
```

== vs ===

"1" == 1

"1" !== 1

1 === 1

Activity Time!

- https://www.destroyallsoftware.com/talks/wat

- How do we stop coercion from destroying everything we love and care about?