

Prototypal Objects

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<http://pinboard.in/u:wondible/t:prototypal/>

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Outline

- Objects in Javascript
- Prototypes
- Escaping Classiness
- Review

Objects

**What's an
object?**

An object is a

Hash Table

An object is a

~~Hash Table~~

Map

An object is a

~~Hash Table~~

Map

*Implementation
detail*



Map

a → **x**

b → **y**

c → **z**

Array

0



x

1



y

2



z

Array

number  value

Object

string → value

Syntactic Sugar

`object ['string']`

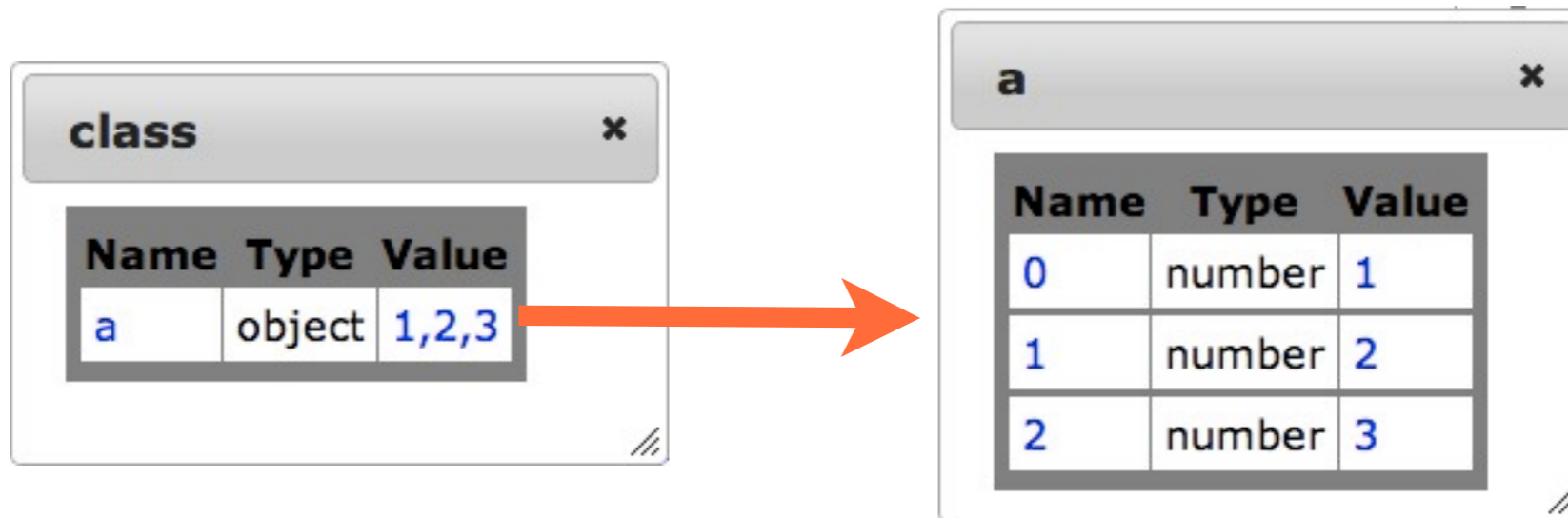


`object.string`

Prototypes

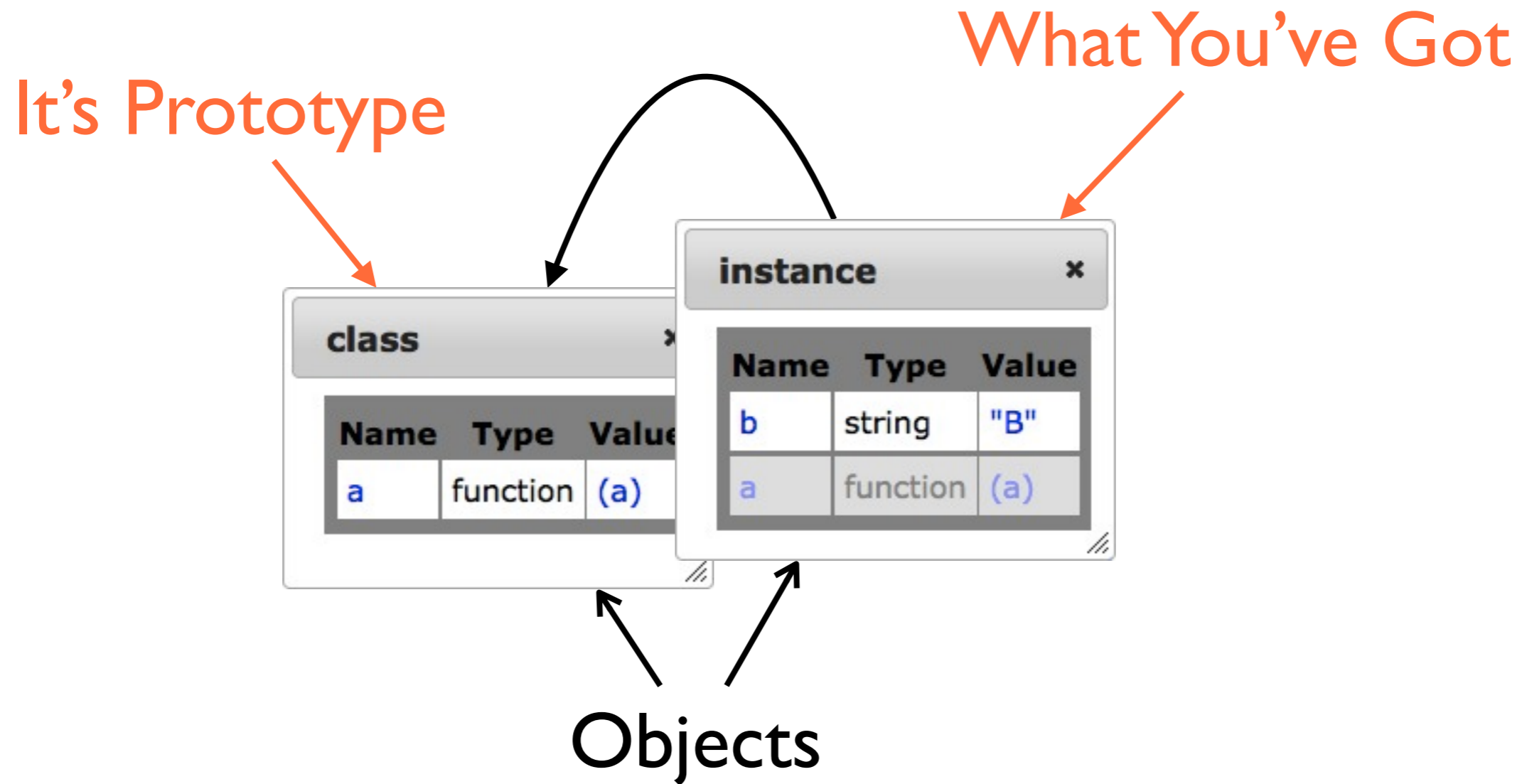
Objects can
be related

Reference



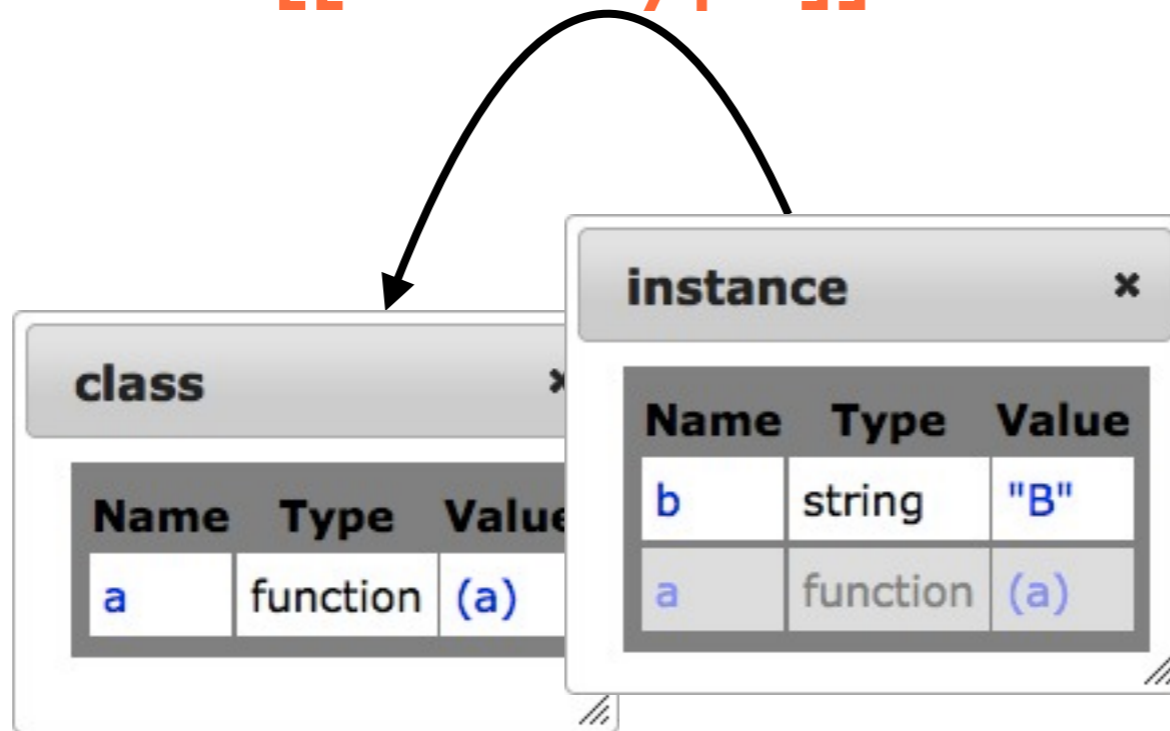
Every object
has a
prototype

Prototype

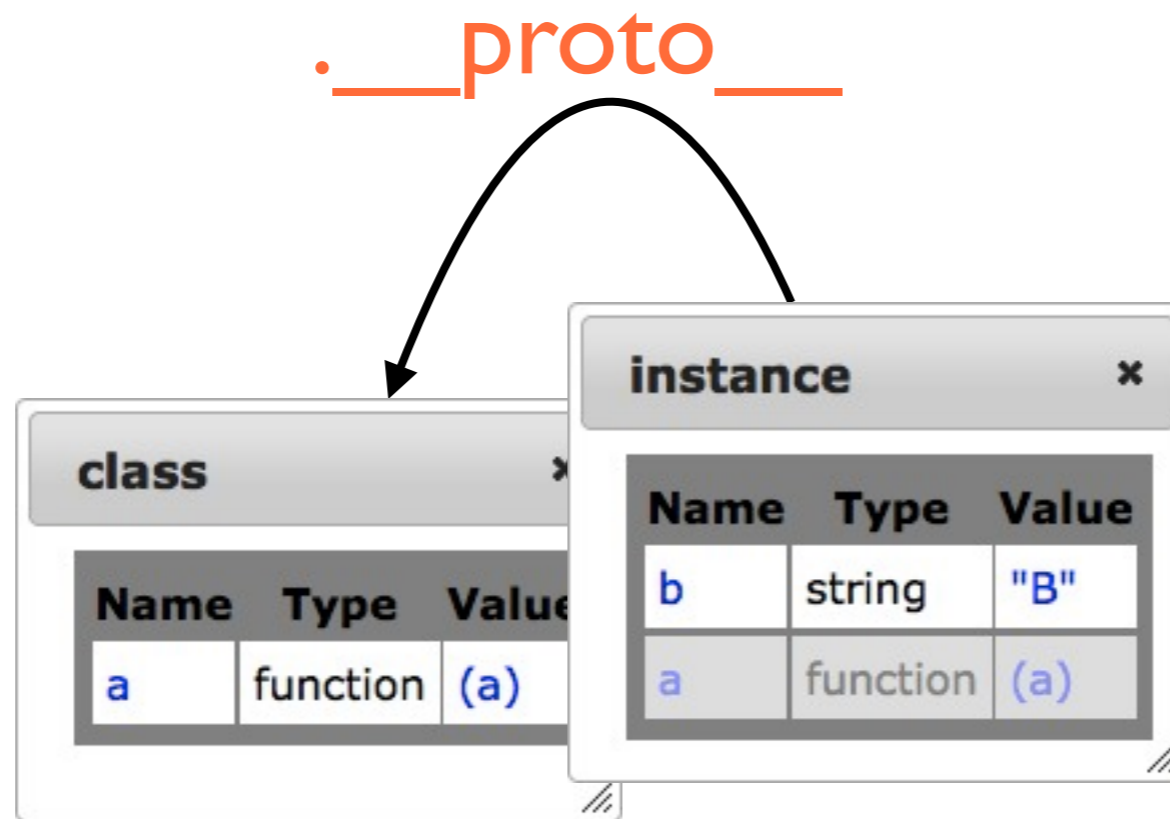


ECMAScript Spec

[[Prototype]]

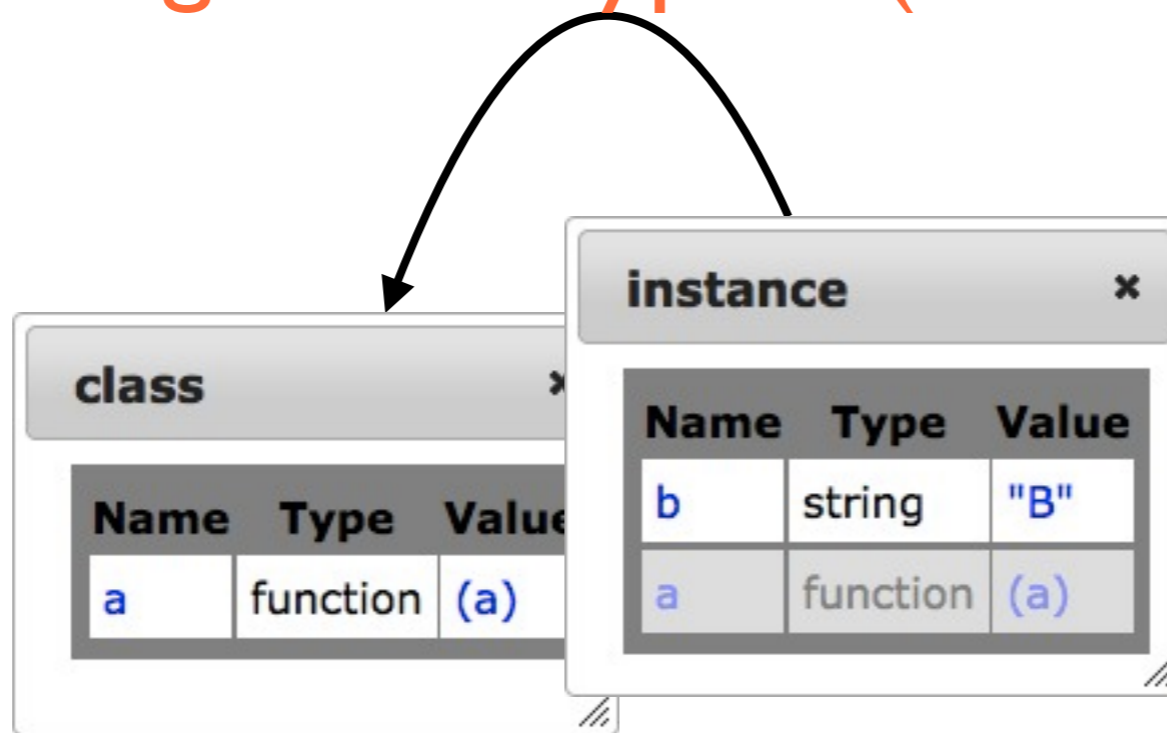


Mozilla

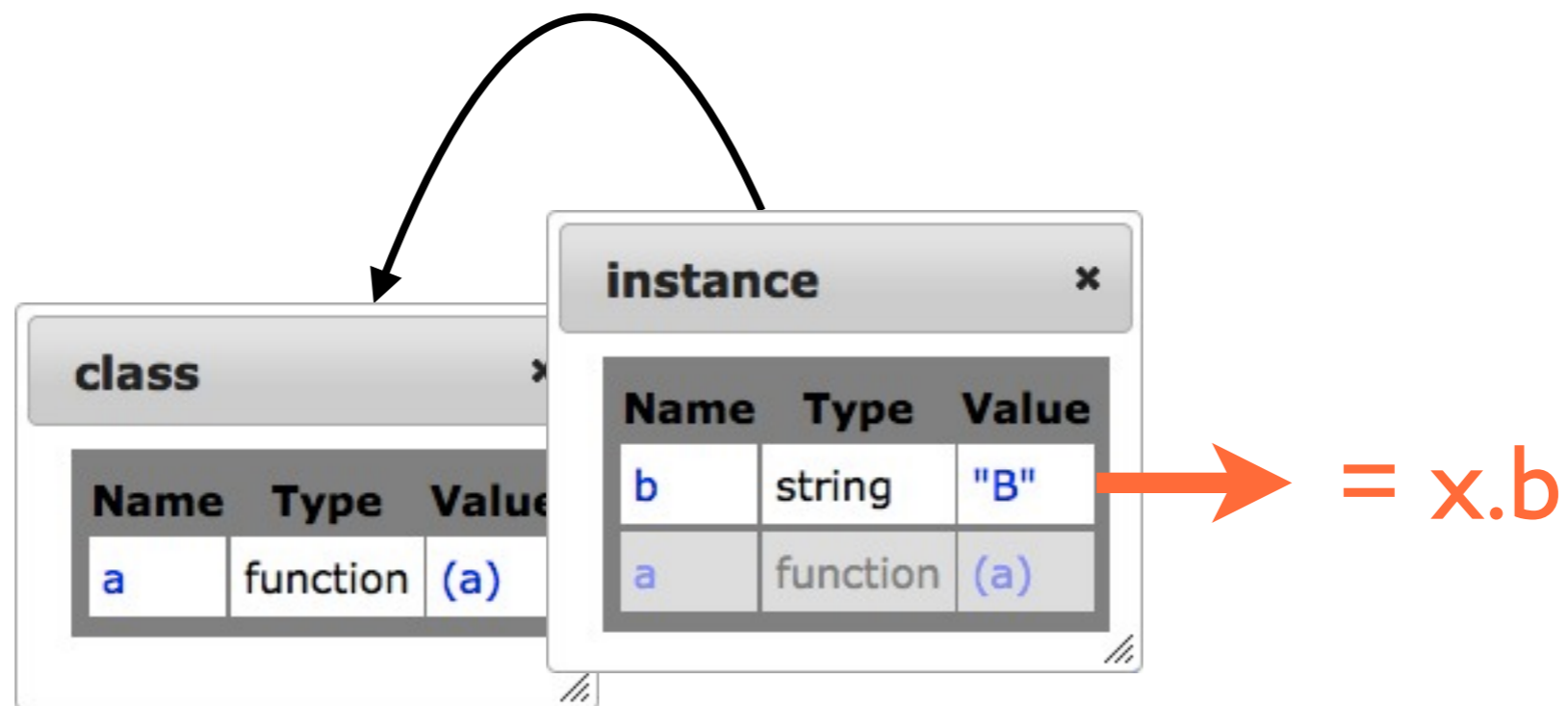


ECMAScript 5

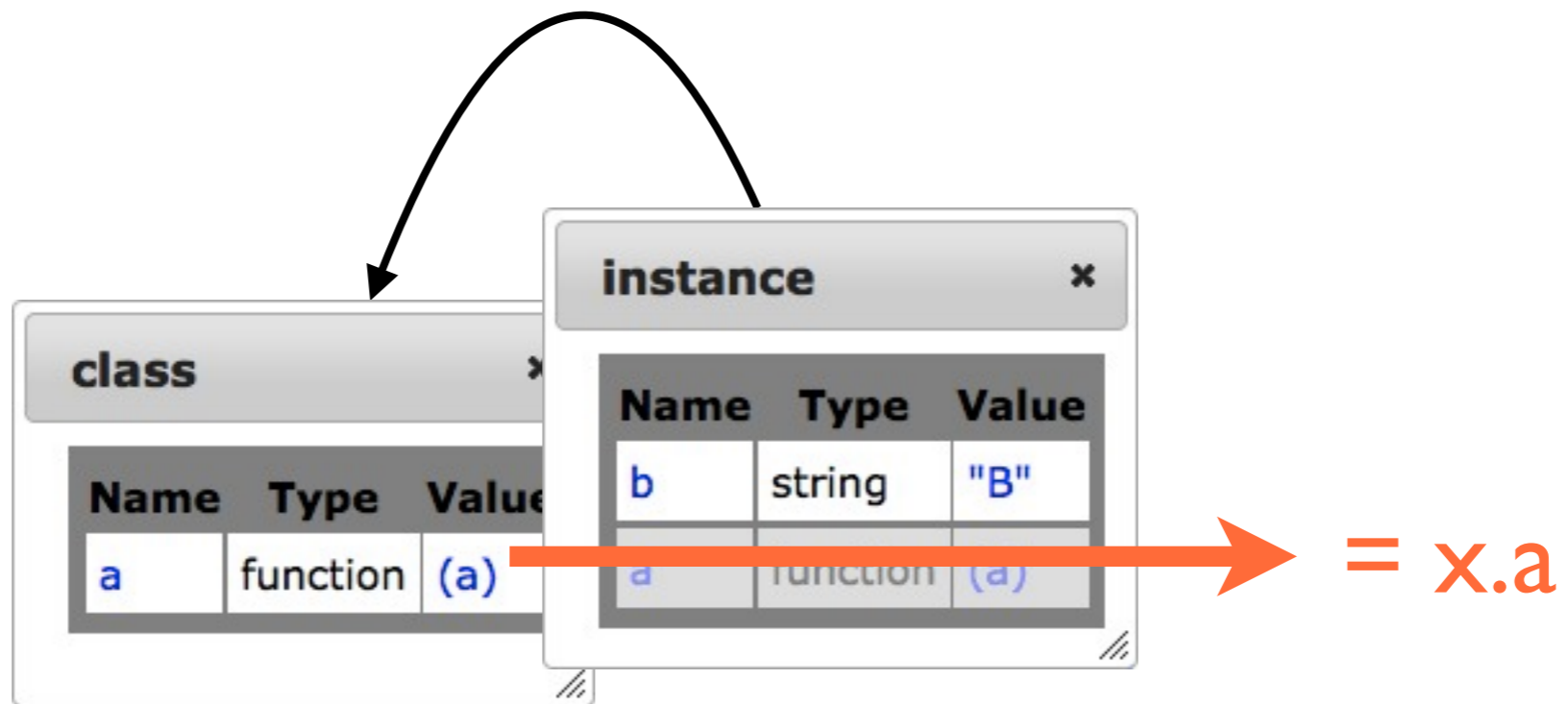
Object.getPrototypeOf(instance)



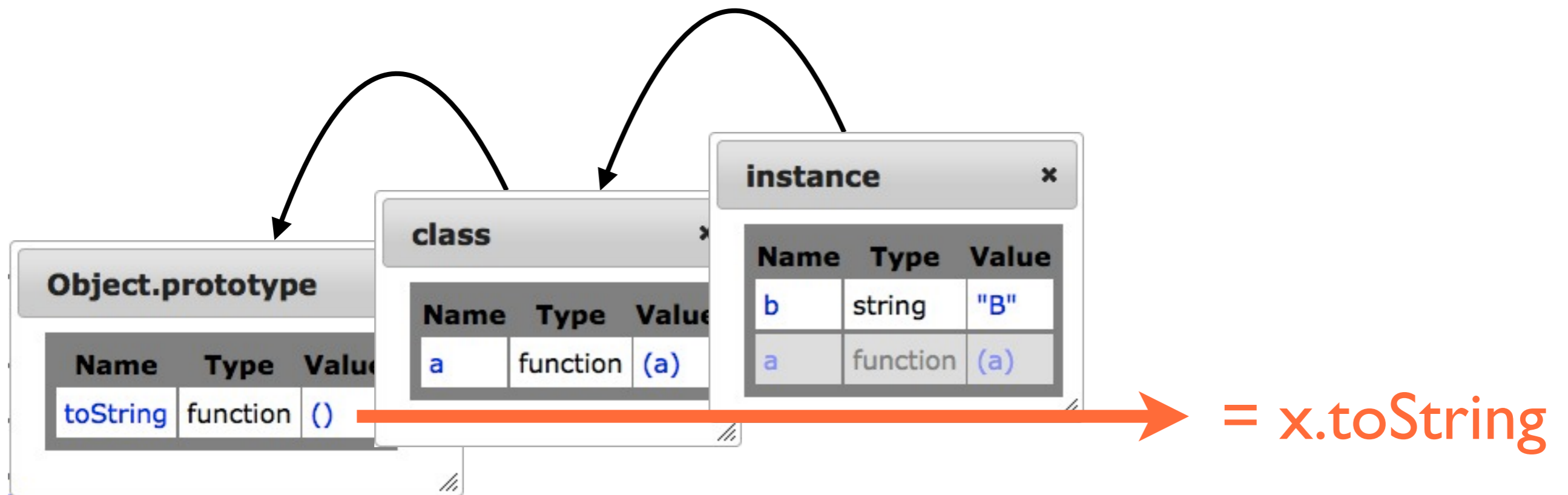
Read



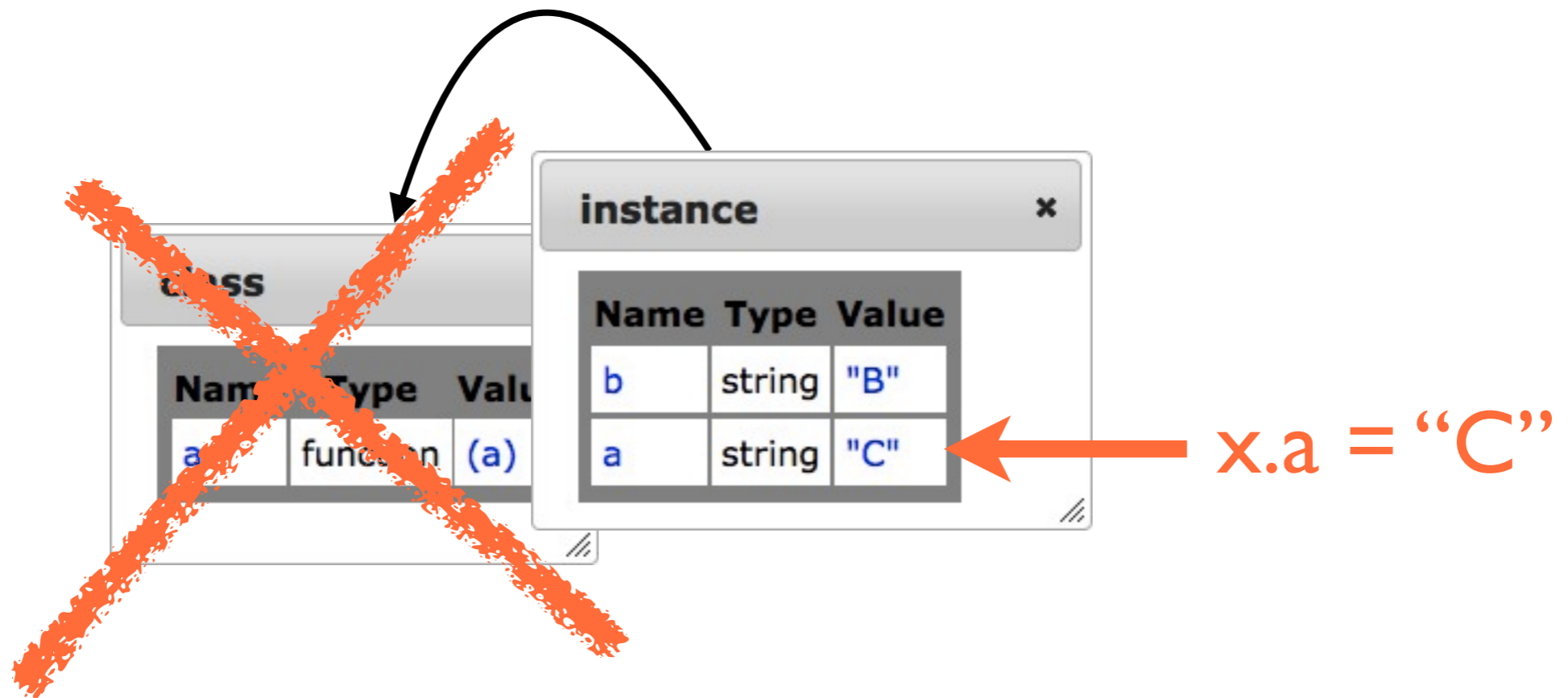
Read



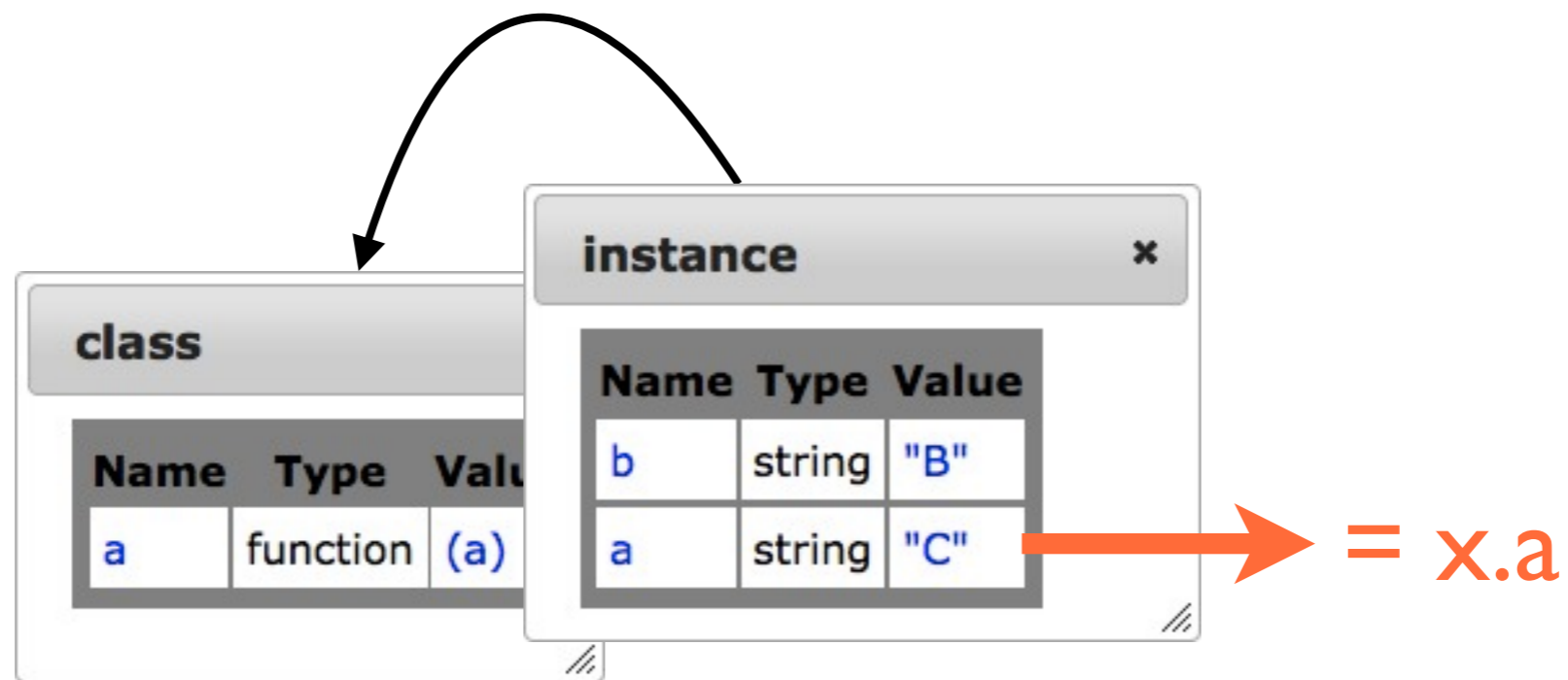
Read



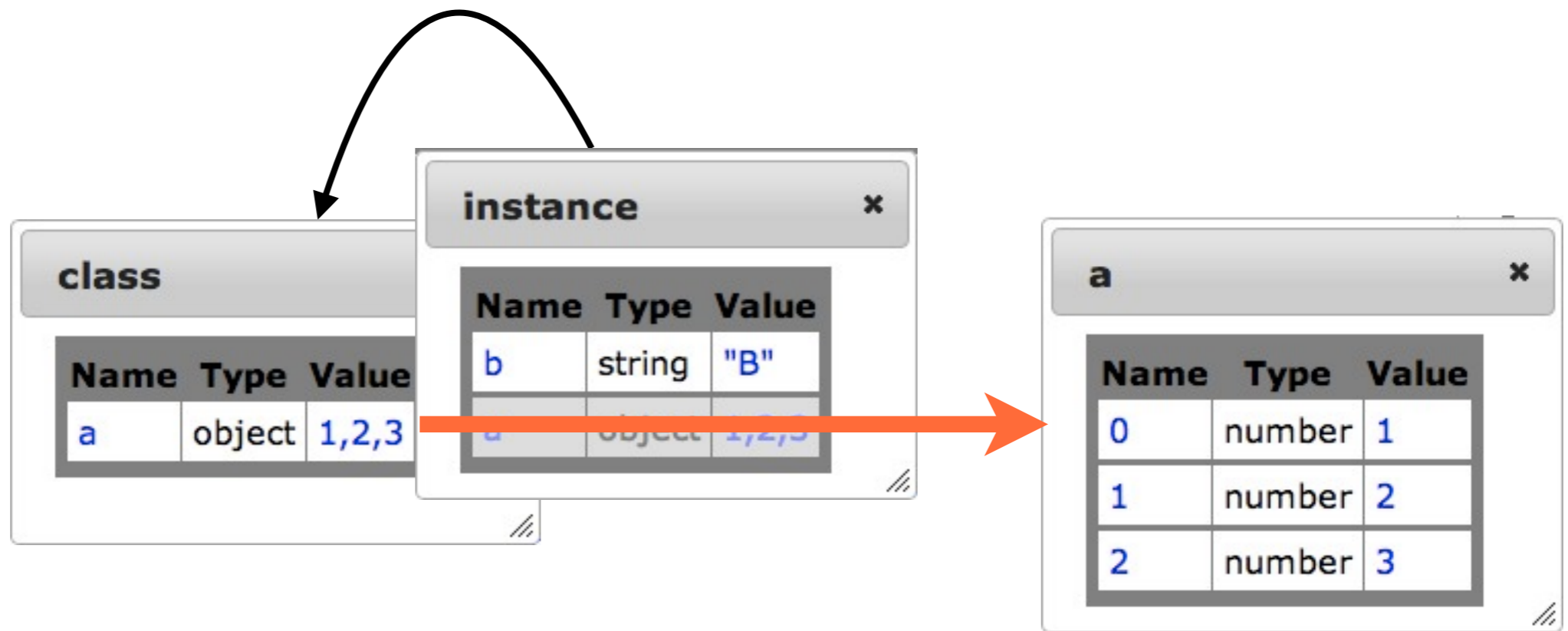
Write



Readback



Compound Objects



“Classes”

Syntactic Sugar

```
new Class();
```

Leaky Abstraction

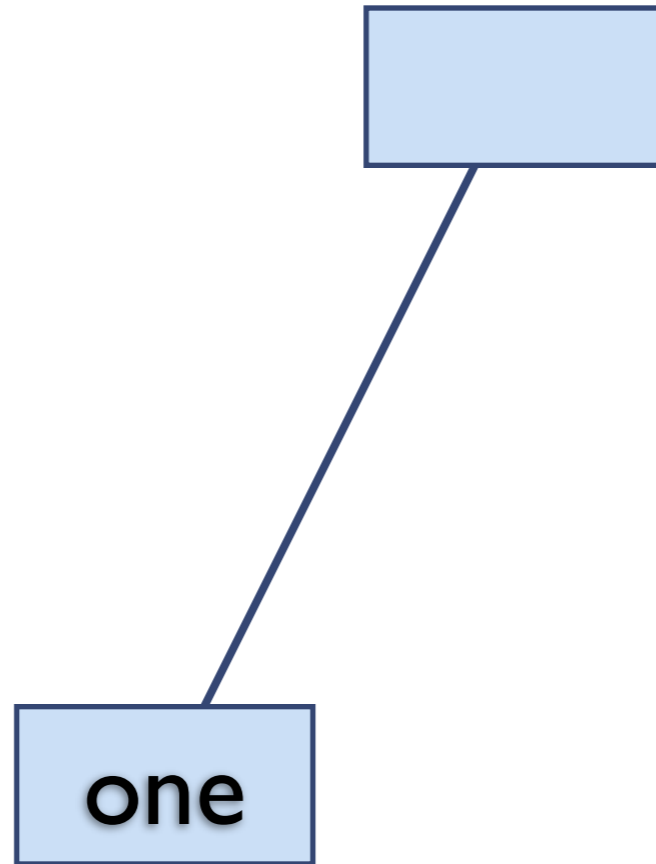
Object.create()

- ES5
 - Firefox 4
 - Safari 5
 - Chrome 5
 - IE 9
- <http://kangax.github.com/es5-compat-table/>

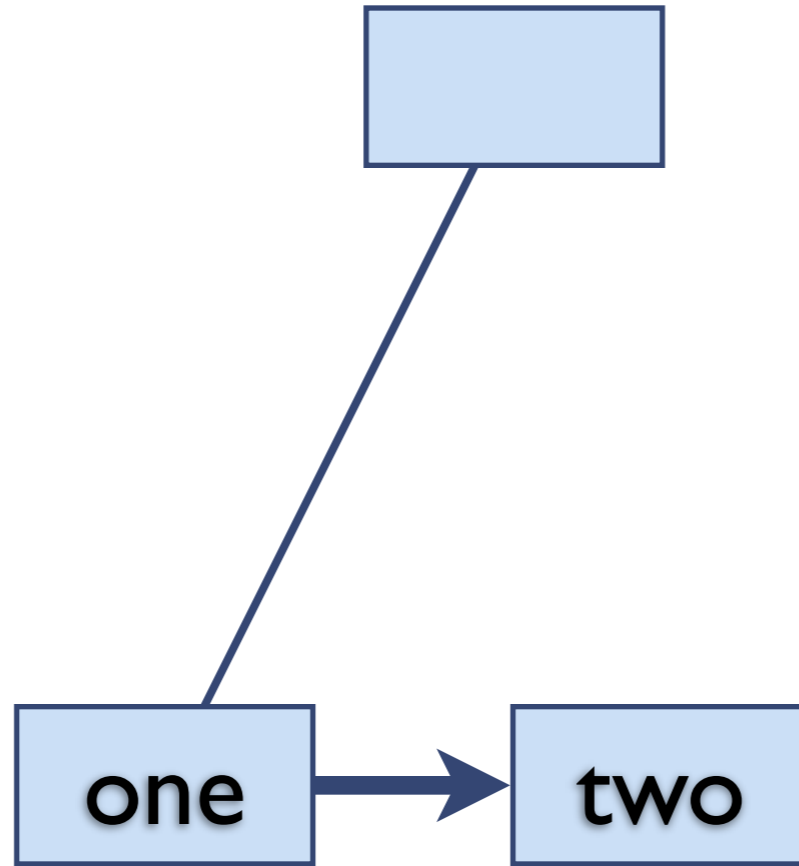
Object.create()

<http://javascript.crockford.com/prototypal.html>

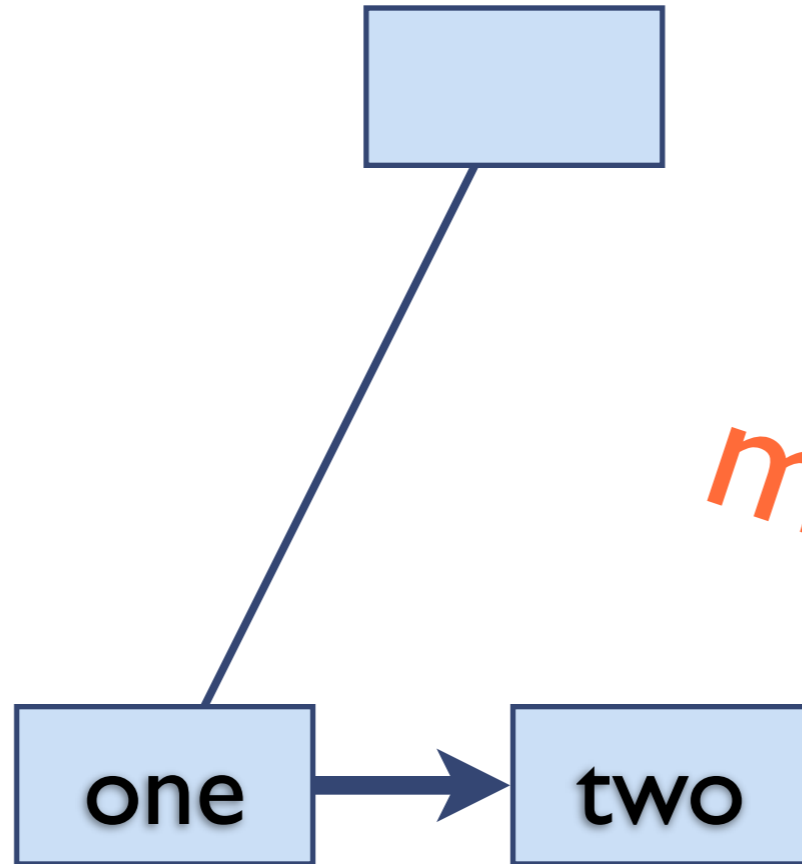
```
Object.create = function(o) {  
  function F() {};  
  F.prototype = (o || {});  
  return new F();  
}
```

`one = Object.create(Object.prototype)`

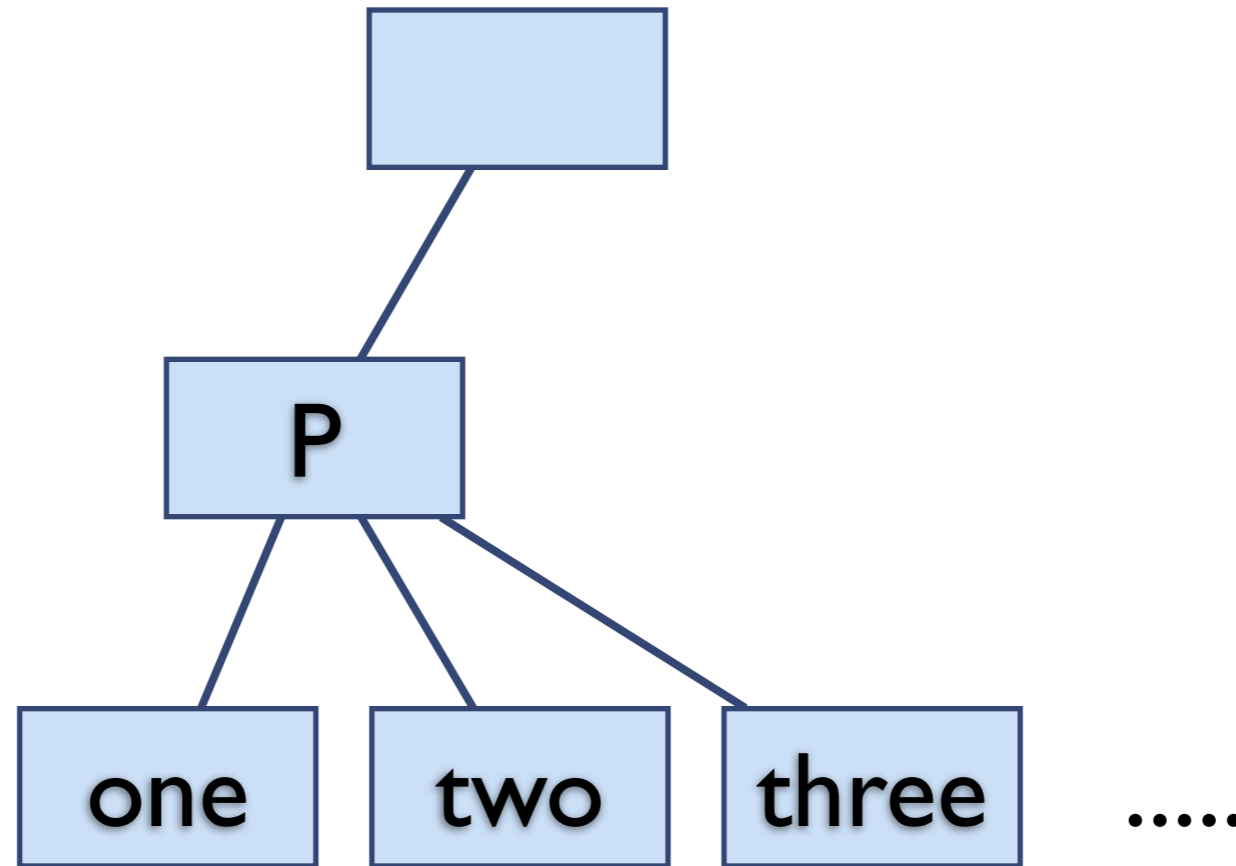


`two = Object.create(one)`



*Beware of
mutable state!*

`two = Object.create(one)`



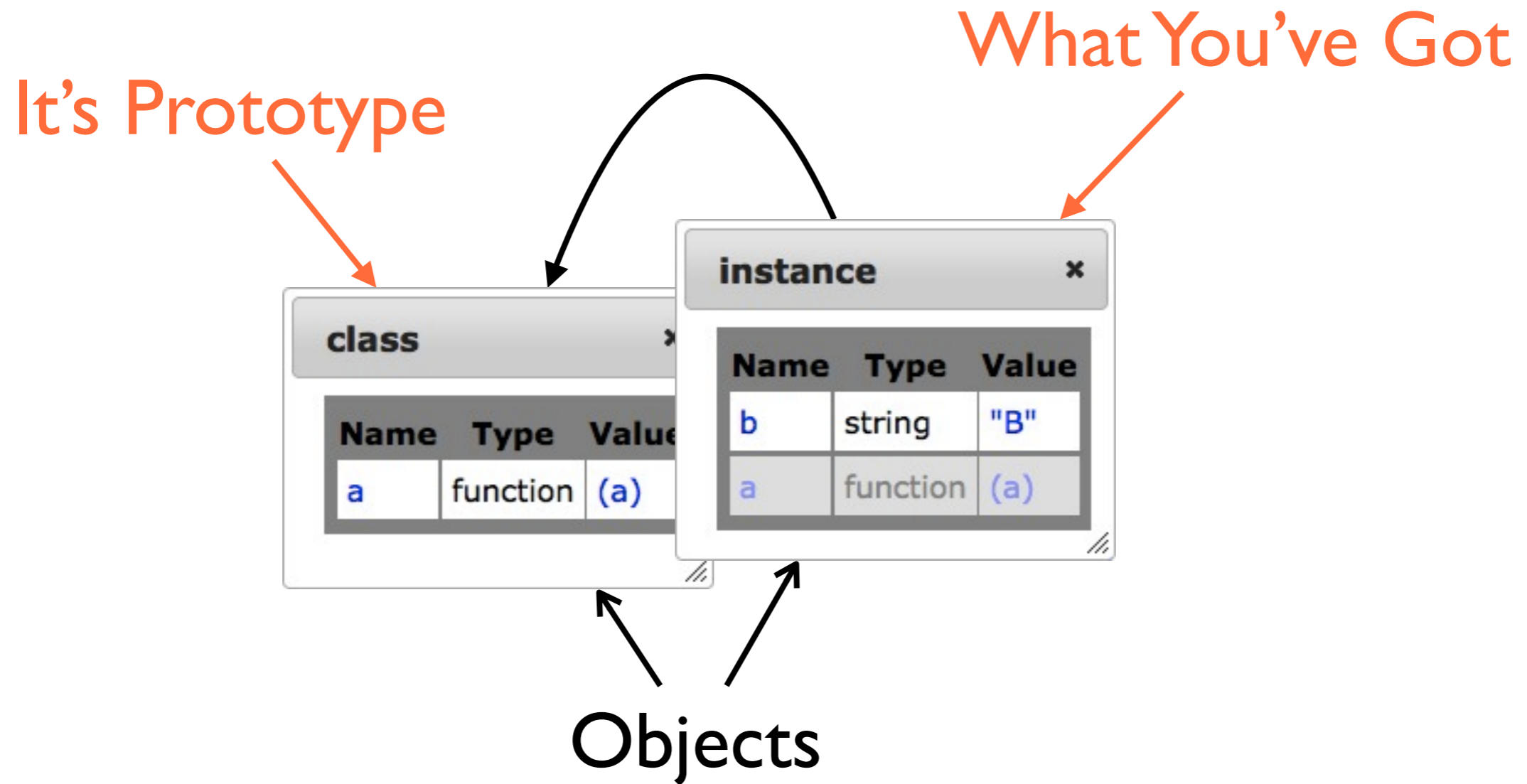
one = Object.create(proto)
two = Object.create(proto)
three = Object.create(proto)

Review

Object

string → value

Prototype



Questions?

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