

In this lecture, we will discuss...

Passing Variables by Value vs. by Reference



Passing (or Copying) By Value

Given $b=a$, passing/copying by value means changing copied value in b does not affect the value stored in a and vice versa

Passing (or Copying) By Reference

Given $b=a$, passing/copying by reference means changing copied value in b does affect the value stored in a and vice versa



In Javascript, primitives are passed by value, objects are passed by reference

✧ **“Under the hood”, everything is actually passed by value**



primitives

```
var a = 7;  
var b = a;
```

objects

```
var a = {x: 7};  
var b = a;
```

✧ 'b' ends up with the same value as 'a'

How does that work?

Passed by value

a

b

7

0x001

5

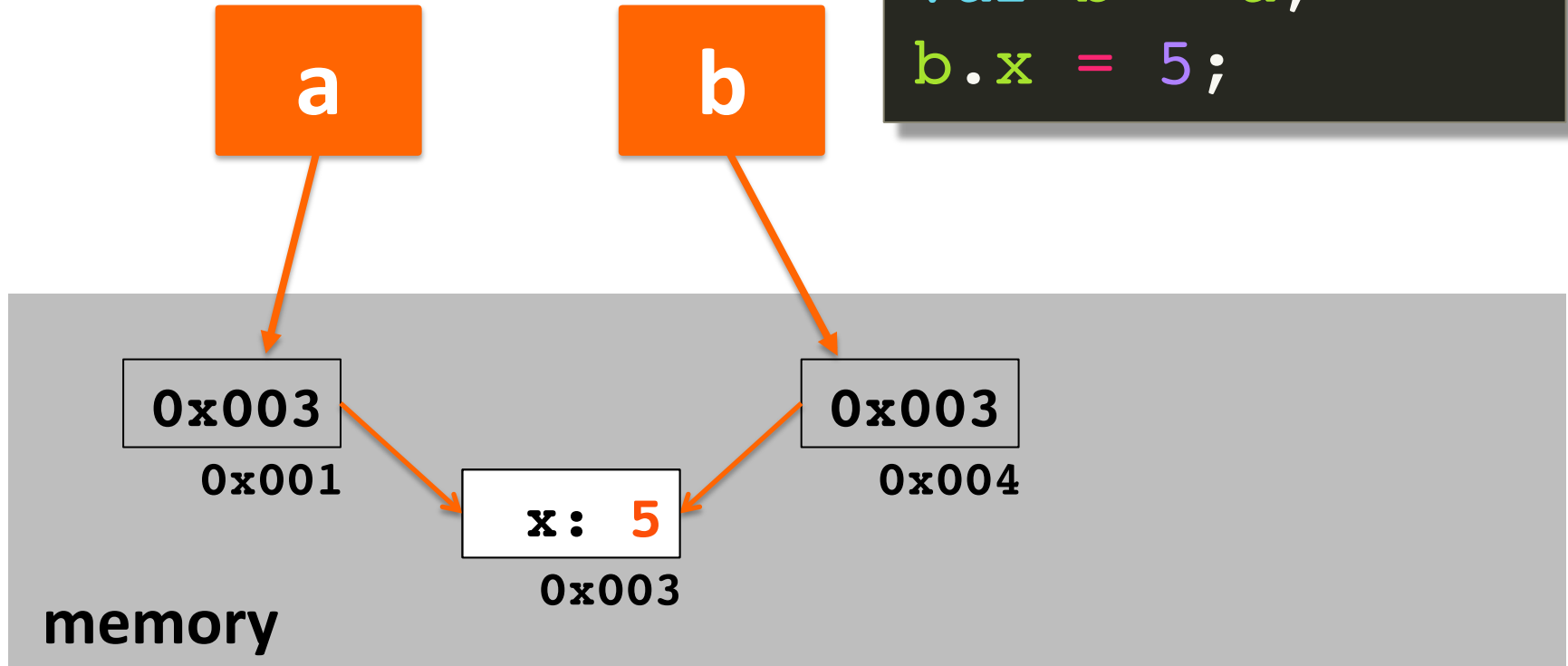
0x002

memory

```
var a = 7;  
var b = a;  
b = 5;
```

Passed by reference

```
var a = {x: 7};  
var b = a;  
b.x = 5;
```



Summary

- ✧ Important! Passing by value vs. passing by reference
- ✧ Simple rule to remember
 - Primitives are passed/copied by value
 - Objects are passed/copied by reference

