

Creating and Using Maps



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Introducing Maps

Maps

Map uses key-value pairs and keeps the original insertion order of the keys. Any value (objects and primitive values) may be used as either a key or a value.

Map Values

key

value

set1.add(value)

map1.set(key, value)



Map Values

key

value

set1.add(value)

map1.set(key, value)



Keys Can Be More Than a String

MAP

('sale', 200)

Strings

(100, 'label')

Numbers

(myFunc(), 300)

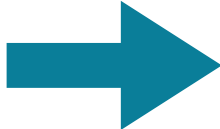
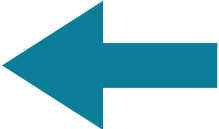
Functions

({sale: 100}, 200)

Objects

Iterates in Order

Arrays



Maps



Properties and Methods for Maps

Properties

Size

Methods

Clear

Keys

Delete

Values

Entries

forEach

Get

Set

Has

Adding and Removing Values in a Map

Iterating through a Map

Difference between Maps and Objects

Explore the Differences

Faster Searching



```
{(1, "smile"), (2, "cry"), (42, "happy")}
```

◀ Map

```
{1: 'smile', 2: 'cry', 42: 'happy'}
```

◀ Object

Key Field

Key Field

(key, value)

Object

Key must be simple data types

Integer

Strings

Symbols

Nothing more

Map

Key can be any data type

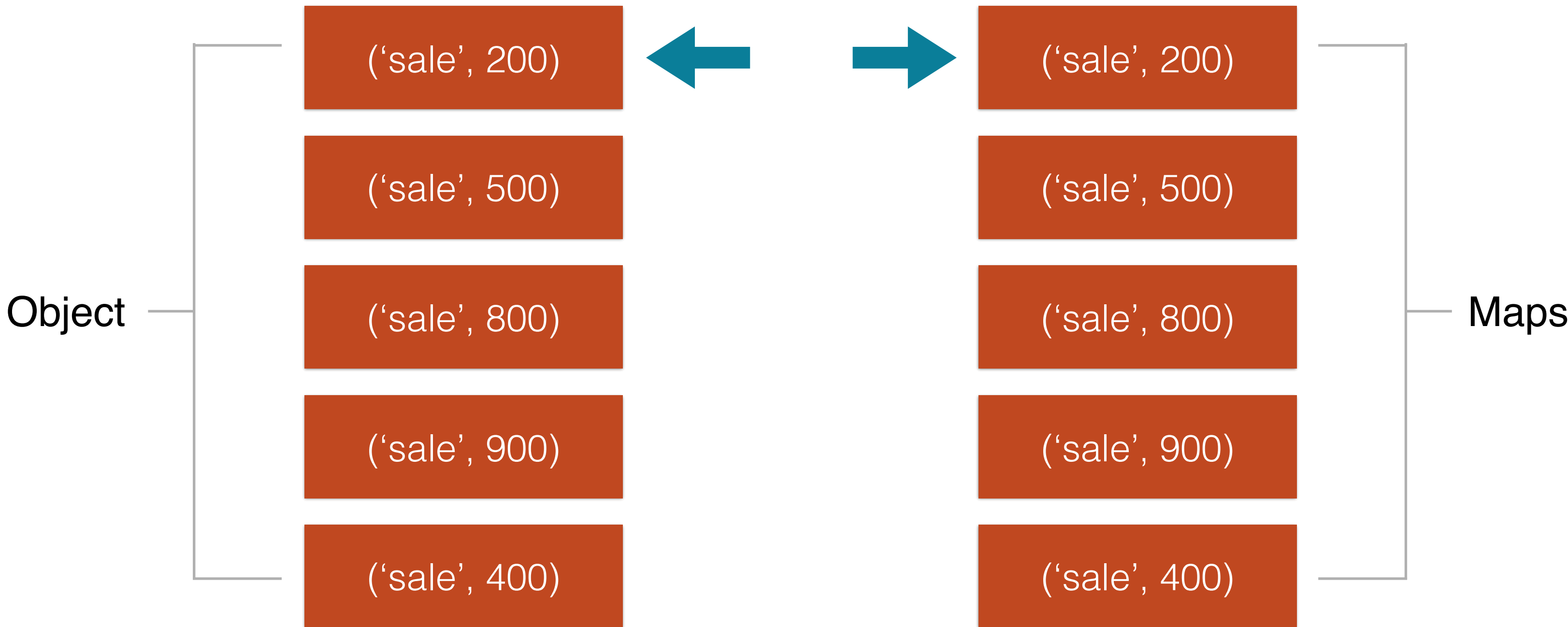
Object

Array

Function

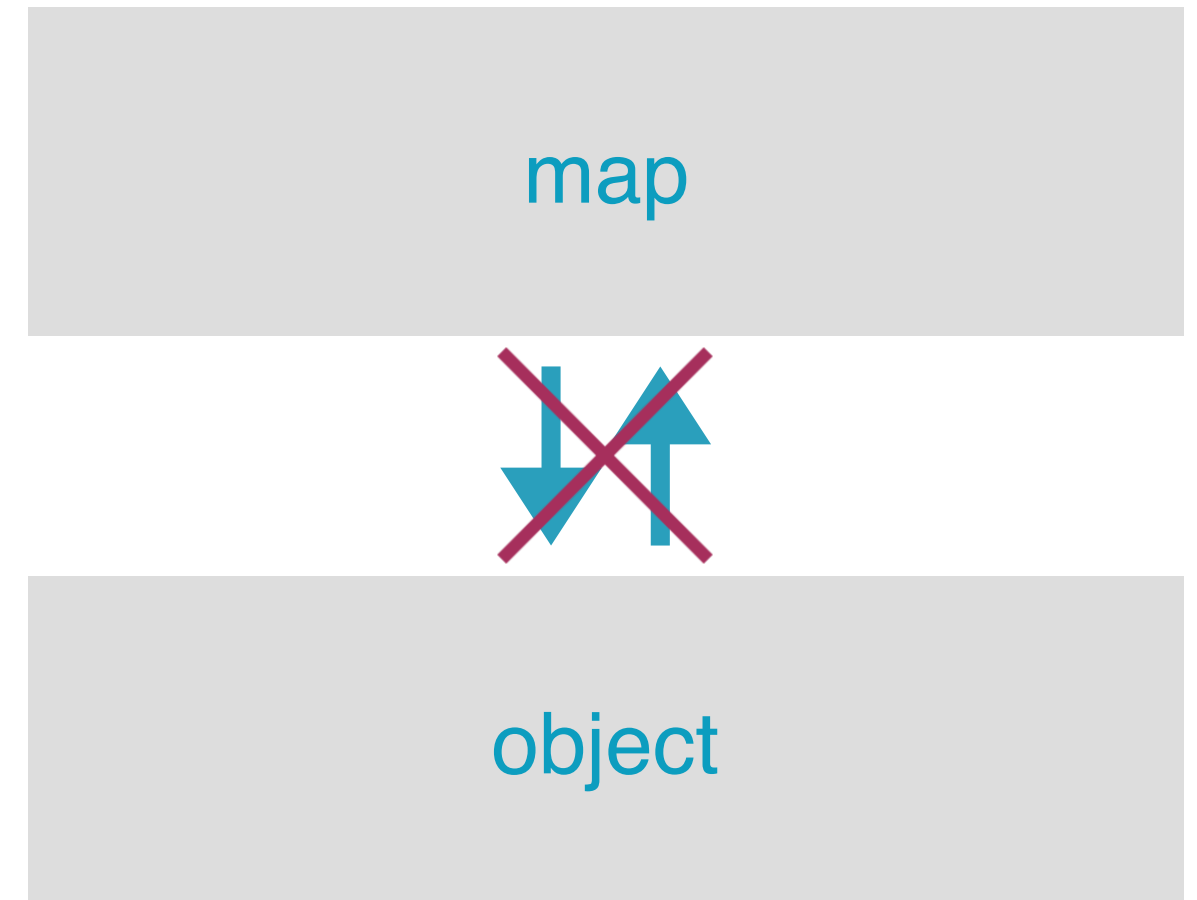
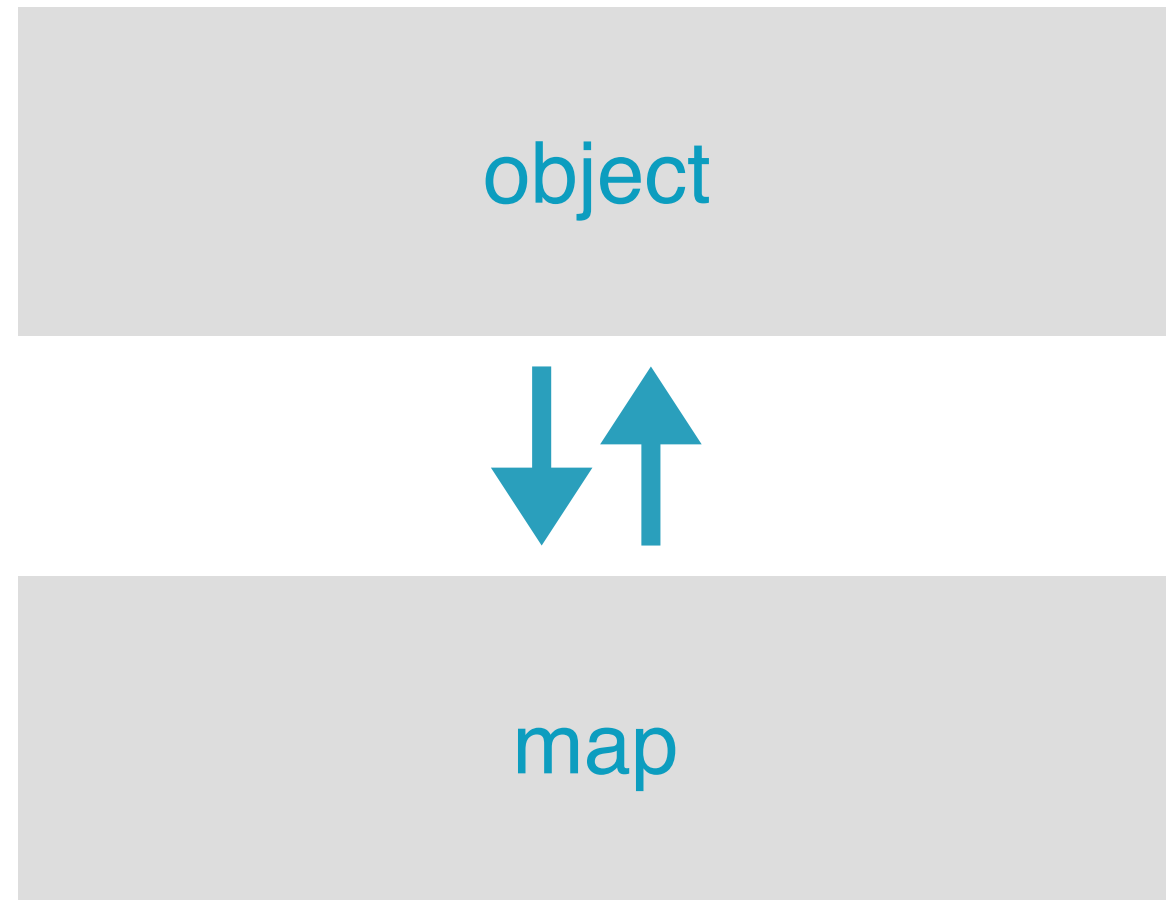
Element Order

Order



Inheritance

Inheritance



Functional Differences

Creating

```
var obj = {};  
var obj = new Object();  
var obj = Object.create(null);
```

```
var map = new Map();
```

Getting

```
obj.id  
obj['id']
```

```
map.get(1)
```

Checking

```
Object - var isExist = obj.id === undefined;
```

```
isExist = 'id' in obj;
```

```
map.has(1);
```

◀ Object

◀ Map

◀ Object

◀ Map

◀ Object

◀ Map

Adding

```
obj['gender'] = 'female';  
obj.gender = male;
```

```
map.set(4,5);
```

Size

```
console.log(Object.keys(obj).length);
```

```
console.log(map.size);
```

◀ Object

◀ Map

◀ Object

◀ Map

Understanding the Difference of Maps and WeakMaps

WeakMap

Keys must be objects

Objects are held “weakly”

Not iterable

Garbage collected

WeakMaps are not enumerable

Garbage Collection

MAP

('sale', 200)

(100, 'label')

(myFunc(), 300)

({sale: 100}, 200)



Set vs WeakSet Methods

	Map	WeakMap
Keys	Clear	Delete
Values	Delete	Get
	Entries	Set
	forEach	Has
	Get	
	Set	
	Has	

Conclusion

Summary

Intro to maps

Adding/removing values

Iterating a map

Differences between maps and objects

Difference of maps and WeakMaps