OOP patterns

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General concepts

JavaScript is a very flexible language. In contrast with Java, PHP, C++ and many other languages, there are many ways to implement OOP in JavaScript.

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Pseudo-classical pattern

- 1. Pseudo-class declaration
- 2. Inheritance
- 3. Calling superclass constructor
- 4. Overriding a method (polymorphism)
 - Calling a parent method after overriding
 - 2. <u>Sugar: removing direct reference</u> to parent
- 5. <u>Private/protected methods</u> (encapsulation)
- 6. Static methods and properties
- 7. Summary

In pseudo-classical pattern, the object is created by a constructor function and it's methods are put into the prototype.

Pseudo-classical pattern is used is frameworks, for example in Google Closure Library. Native JavaScript objects also follow this pattern.

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All-in-one constructor pattern

- 1. Declaration
- 2. Inheritance
- 3. Overriding (polymorphism)
- 4. <u>Private/protected methods</u> (encapsulation)
- 5. Summary
 - Comparison with pseudoclassical pattern

All methods and properties of the object can be added in the constructor. This method doesn't use prototype at all.

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Factory constructor pattern

- 1. Declaration
- 2. Inheritance
- 3. <u>Private/protected methods</u> (encapsulation)

This pattern is special, because it doesn't use "new". The object is created by a simple function call, similar to *Python-style*:

```
var animal = Animal("fox")
var rabbit = Rabbit("rab")
```

4. Summary

1. Comparison with All-in-one constructor

