

Introduction to CoffeeScript

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Presentation of JavaScript and CoffeeScript

Why CoffeeScript

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CoffeeScript reference

JavaScript and CoffeeScript

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var cubes = (function() {  
  var _i, _len, _results;  
  _results = [];  
  for (_i = 0, _len = list.length; _i < _len; _i++) {  
    num = list[_i];  
    _results.push(math.cube(num));  
  }  
  return _results;  
})();
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While the equivalent code in CoffeeScript is :

```
cubes = (math.cube(num) for num in list)
```


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```
var Animal = (function() {  
    function Animal(name) {  
        this.name = name;  
    }  
  
    Animal.prototype.move = function(meters) {  
        return alert(this.name + (" moved " + meters + "m."));  
    };  
  
    return Animal;  
})();
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  };  
  
  return Animal;  
})();
```

...And there is still no inheritance involved...

And CoffeeScript classes

The CoffeeScript syntax is closer to the Python one.

```
class Animal
  constructor: (@name) ->

  move: (meters) ->
    alert @name + " moved #{meters}m."
```

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- Cleaner code.
- Write less, do more.

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As shown previously, CoffeeScript is really better to keep a clean and maintainable code.

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How CoffeeScript is used

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So...why not directly write JavaScript?

As shown previously, CoffeeScript is really better to keep a clean and maintainable code.

It is a kind of great syntactic sugar, so you can still use libraries like jQuery.

If you're still not convinced, check out the [differences](#) of code you need to write !

CoffeeScript syntax differences with JavaScript

- No keyword `var` to declare a variable before using it.
- No `{ }` to delimit the `if-else` blocks.
- `()` to surround a condition in `if` are not necessary.
- No `;` at the end of instructions.
- Declare a function `square` with a parameter `x` :

```
square = (x) ->  
  x*x
```

- Returns are implicit.
- Use `and` instead of `&&`.
- Use `or` instead of `||`.
- Use `#` to put inline comments
(and `###...###` is equivalent to `/*...*/`)

Beginners' mistakes to avoid in CoffeeScript

Like Python, **indentation** is made by (at least) 2 **spaces**.

It is the only way to define a code block (in a method, **if**, **else**, ...).

Beginners' mistakes to avoid in CoffeeScript

Example of a “static” CoffeeScript class :

```
class window.Utils
  @calc: (x, y) ->
    ...
```

- `class window.Utils` attaches the `Utils` class to the `window` object (containing the DOM document).
- The `@` character declares that the `calc` method is static.
- `x` and `y` are the parameters of the `calc` method.
- If you call a static method from another class, the syntax is `<Class name>.<method name>`.
- If you call a static method from the same class, you can use the syntax `@<method name>`.

Beginners' mistakes to avoid in CoffeeScript

Example of a CoffeeScript class :

```
class window.Person:  
  @name  
  
  constructor: (name) ->  
    @name = name  
  
  getName: () =>  
    @name
```

- The @ means that name is an instance field.
- The return of the getName method is implicit.
- As getName is an **instance method**, => must be used (instead of ->) to define that **this** relates to the corresponding Person object, and not to the **this** where the method has been called.
(that is due to one of the quirks of JS)

In case you **really** need it

If you want to use something that doesn't exist in CoffeeScript (shouldn't happen), you can embed JS code between '...':

```
hi = 'function() {  
  return [document.title, "Hello JavaScript"].join(": ");  
'
```

But use this **only** if you need it.

It is much better to keep a coherent code in CoffeeScript.

For more informations

CoffeeScript reference documentation :

<http://coffeescript.org>