

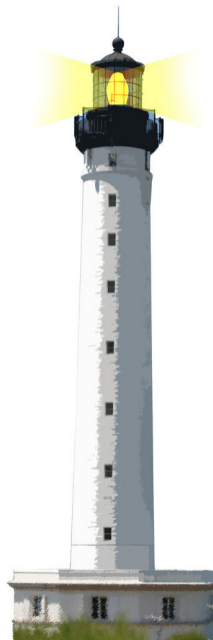


**Learning Object-Oriented
Programming and Design with TDD**

Booleans and Conditions

Stéphane Ducasse

<http://stephane.ducasse.free.fr>



Booleans

true and false are two objects!



Boolean Messages

In Pharo, booleans have nothing special

- & | not
- or: and: (lazy)
- xor:
- ifTrue:ifFalse:
- ifFalse:ifTrue:
- ifFalse:
- ifTrue:

The not message: quite obvious :)

```
true not  
>>> false
```

```
false not  
>>> true
```

Eager and Lazy Logical Operators

```
false & (1 error: 'crazy')  
→ an error
```

- the argument (1 error: 'crazy') is executed because this is a non lazy operator

```
false and: [ 1 error: 'crazy' ]  
→ false "no error!"
```

- the argument [1 error: 'crazy'] is not executed because it is not necessary

Conditionals are Messages too

In Pharo, traditional conditional (if, else, while) are messages sent to boolean or block objects



Yes ifTrue:ifFalse: is a message!

```
Weather isRaining  
  ifTrue: [ self takeMyUmbrella ]  
  ifFalse: [ self takeMySunglasses ]
```

- Conceptually ifTrue:ifFalse: is a message sent to an object: a boolean!
- Heavily optimised by the compiler

Conditionals: `ifTrue:` and `ifTrue:ifFalse:`

`ifTrue: []` and `ifTrue: [] ifFalse: []` are two different messages

```
forceltalicOrOblique  
  self slantValue = 0  
  ifTrue: [ slantValue := 1 ]
```

```
fullName isEmptyOrNil  
  ifTrue: [ 'FirstnameLastname' translated ]  
  ifFalse: [ fullName ].
```


Conditionals: `ifFalse:` and `ifFalse:ifTrue:`

`ifFalse: []` and `ifFalse: [] ifTrue: []` are two different messages



Conditionals: isEmpty: ifNotEmpty:

```
myProtocol  
  isEmpty: [ 'As yet unclassified' ]
```

```
self listItems  
  ifNotEmpty: [ :aList | aList at: index ]
```

- Notice that when the receiver is not empty we get it as argument
- No need to ask it again



Summary

- Booleans are real objects
- Some conditionals are messages sent to Booleans



Resources

- Pharo Mooc - W2S08 Videos
- Pharo by Example <http://books.pharo.org>



A course by Stéphane Ducasse
<http://stephane.ducasse.free.fr>

Reusing some parts of the Pharo Mocc by

Damien Cassou, Stéphane Ducasse, Luc Fabresse
<http://mocc.pharo.org>



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