Variables

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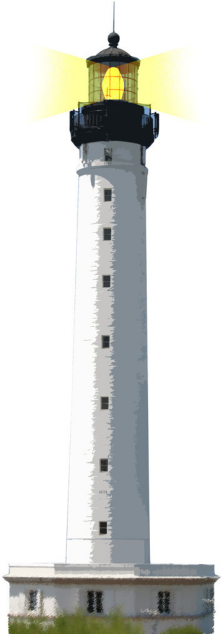
W3S03

http://www.pharo.org



In a Nutshell

- **Local** variables start with **lowercase** (temps, instance variables, arguments,...)
- **Shared** variables start with **uppercase** (class, class variables)

Local Variables Start With Lowercase

Temporary variables are local to the method

Example: c

```
CounterTest >> testIncrement
  | c |
  c := Counter new.
  ...
```

Remember: class names start with uppercase

Local Variables Start With Lowercase

Instance variables are local to the object

Example: x, y, count

```
Object subclass: #Point
  instanceVarNames: 'x y'
```

```
Object subclass: #Counter
  instanceVarNames: 'count'
```

Local Variables Start With Lowercase

Method arguments: aPoint

```
crossProduct: aPoint
 "Answer a number that is the cross product of the receiver and
     the
 argument, aPoint."

 ^ (x * aPoint y) – (y * aPoint x)
```

Block arguments: :x

```
[ :x | x + 2 ]
```

Special Variables

Special variables cannot be changed

- true, false, nil
- self, super, thisContext

Special Variables

- true, false are the Booleans
  - true is the unique instance of the class True
  - false is the unique instance of the class False
- nil is the unique instance of the class UndefinedObject

Special Variables

- self refers to the receiver of the message (this in Java)
- super refers to the receiver but the method lookup starts in the superclass of the class defining the method (see dedicated Lectures)
- thisContext refers to the current execution stack (advanced)

Shared or Global Variable starts with Uppercase

Object is a class globally accessible

```
Object subclass: #Point
```

Transcript is an object that is globally accessible (a kind of stdout)

```
Transcript cr.
Transcript show: 'hello world'.
Transcript cr.
```

ClassVariables are Shared Variables

- To share information between all the instances of a class and subclasses
- Use a classVariable

```
Object subclass: #CombinedChar
  instanceVariableNames: 'codes combined'
  classVariableNames: 'Compositions Decompositions
      Diacriticals'
  package: 'Kernel-BasicObjects'
```

- Here Compositions is shared between all the CombinedChar instances and instances of subclasses

Summary

- Lowercase are used for local/private/temporary variables
- Uppercase are used for shared or global variables

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