

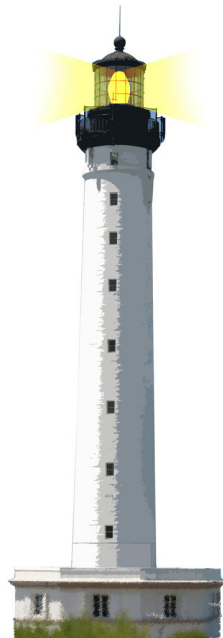
# Loops

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<http://www.pharo.org>



# Loops

- Loops are expressed as messages
- Many different ones
  - Plain loops
  - Conditional loops
- Messages sent to numbers, collections or blocks
- Iterators



# Loops: timesRepeat:

To repeat a given number of times an action

```
4 timesRepeat: [ self doSomething ]
```



# Loops: to:do:

```
1 to: 100 do:  
  [:i | ... i ...]
```

to:do: is a method defined on Number

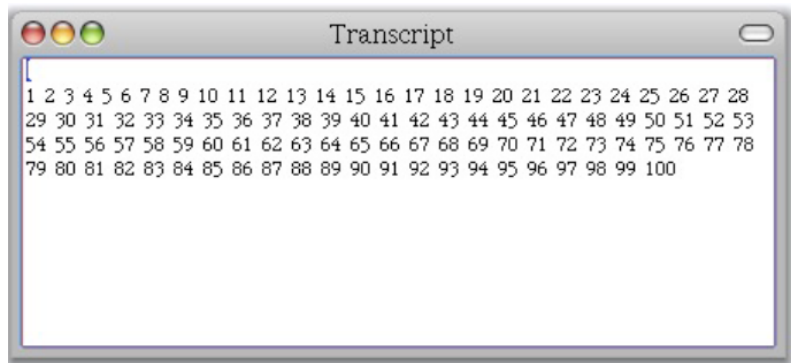


## Example: to:do:

The block is executed with the temporary `i` taking values from 1 to 100

1 to: 100 do:

[ :i | Transcript show: i ; space ]



# Loops: to:by:do:

```
0 to: 100 by: 3 do: [:i | ... i ...]
```

to:by:do: is also a method defined on Number

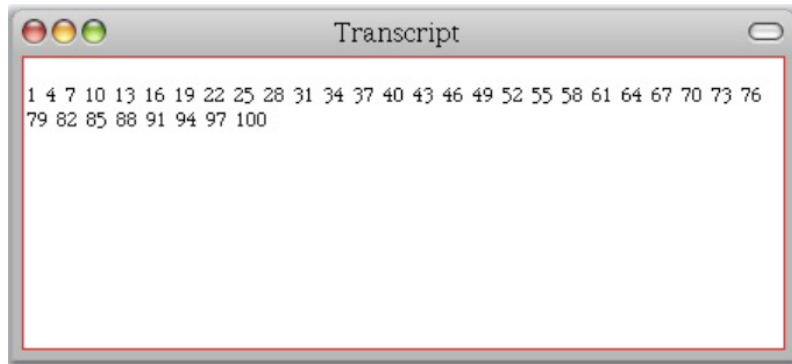


## Example: to:by:do:

The block is executed with i taking values from 1 to 100 by step of 3

1 to: 100 by: 3 do:

[ :i | Transcript show: i ; space ]



# Basic Iterators Overview

- do: (iterate)
- collect: (iterate and collect results)
- select: (select matching elements)
- reject: (reject matching elements)
- detect: (get first element matching)
- detect:ifNone: (get first element matching or a default value)
- includes: (test inclusion)
- and a lot more...





# Loops: do:

```
aCol do: [ :each | ... ]
```

The block is executed with `each` taking as value all the elements of `aCol`



## Example: The iterator do:

```
 #(15 10 19 68) do:  
   [:i | Transcript show: i ; cr ]
```



# Loops: whileTrue:

```
[ ... ] whileTrue: [ ... ]
```

Executes the argument, aBlock, as long as the value of the receiver is true

```
Color >> atLeastAsLuminentAs: aFloat  
| revisedColor |  
revisedColor := self.  
[ revisedColor luminance < aFloat ]  
  whileTrue: [ revisedColor := revisedColor slightlyLighter ].  
^ revisedColor
```



# Loops: whileTrue

Executes the receiver, as long as its value is true

```
[...] whileTrue
```

Equivalent with whileFalse **and** whileFalse:



# Summary

- Loops are expressed as messages
- Many different ones
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