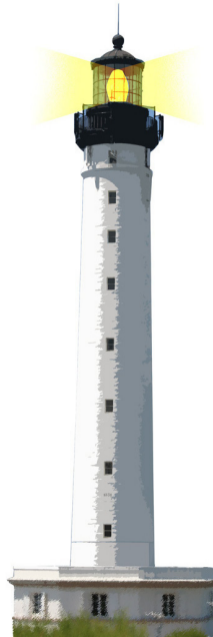


Did You Really Understand Super?

S. Ducasse and L. Fabresse



<http://www.pharo.org>



What you will learn

Revisit

- super
- Message lookup
- Class methods



A little puzzle

Die class >> new

```
| inst |  
inst := super new.  
inst initialize.  
^ inst
```

We execute the following expression: Die new

Questions

Die class >> new

```
| inst |  
inst := super new.  
inst initialize.  
^ inst
```

- What is inst?
- What is super?
- What is super new?

Hint: super is Not...

Die class >> new

```
| inst |  
inst := super new.  
inst initialize.  
^ inst
```

- No super is not the superclass
- No inst is not an instance of the superclass



Hint 2: super is the message receiver

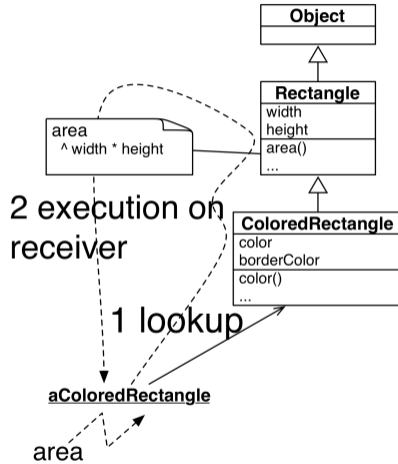
Die class >> new

```
| inst |  
inst := super new.  
inst initialize.  
^ inst
```

- The message is Die new
- So the receiver is the class Die



Sending a message: Lookup + execute on receiver



2 execution on receiver

1 lookup

aColoredRectangle

area

area

\wedge width * height

Object

Rectangle

width

height

area()

...

ColoredRectangle

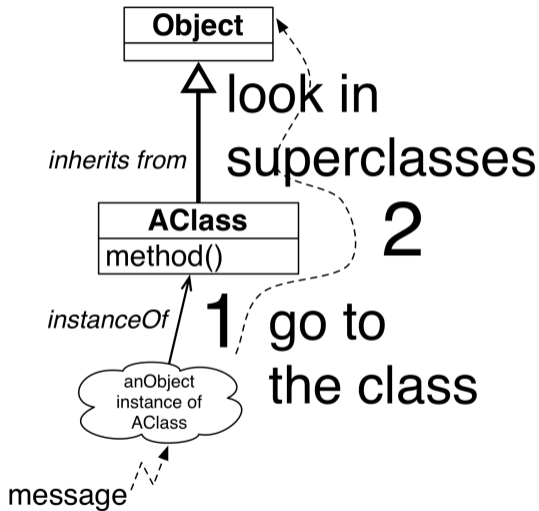
color

borderColor

color()

...

Remember: Method lookup



Solution

```
Die class >> new
```

```
| inst |
```

```
inst := super new.
```

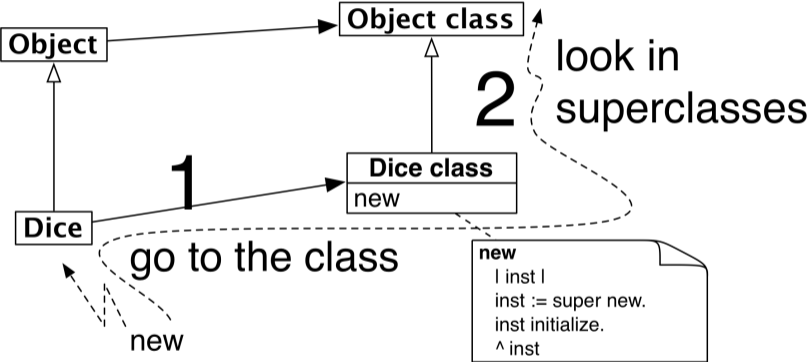
```
inst initialize.
```

```
^ inst
```

- `super` is the receiver: the class `Die`
- Look for `new` in the superclass of the class `Die class` (Pay attention not `Die`)
- Once found we apply to the receiver: `Die`
- We get an instance of the class `Die` and send it `initialize` and return it



Solution



Summary

- Sending a message is looking up for the method and applying it on the receiver
- Now you should really understand `super` :)
- `super` is the receiver of the message and the method lookup starts in the superclass of the class containing the expression



Challenge yourself

Imagine we have:

```
A >> foo  
  ^ super class == self class
```

What is the result of A new foo and why?



A course by

S. Ducasse, L. Fabresse, G. Polito, and Pablo Tesone



Except where otherwise noted, this work is licensed under CC BY-NC-ND 3.0 France
<https://creativecommons.org/licenses/by-nc-nd/3.0/fr/>