Learning Object-Oriented
Programming and Design with TDD

Did you really understand super?

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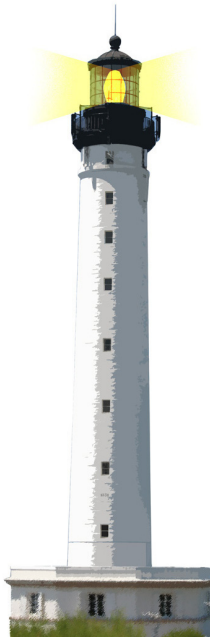


Pharo
http://www.pharo.org

What You Will Learn

Revisit

- super
- Message lookup
- Class methods

A Little Puzzle

```
Dice class >> new

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

We execute the following expression: Dice new

Questions

```
Dice class >> new

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

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

Hint: super is Not...

```
Dice class >> new

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

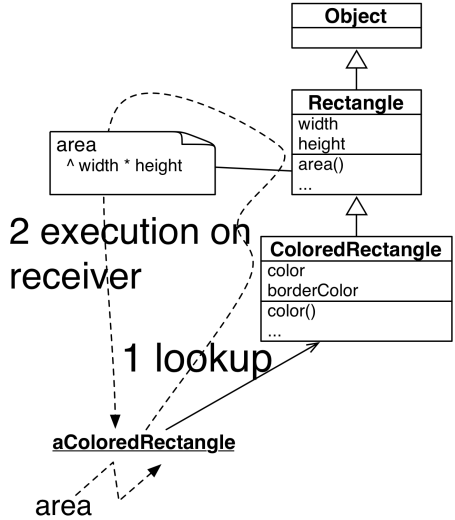
- No super is not the superclass
- No inst is not an instance of the superclass

Hint 2: super is the Message Receiver

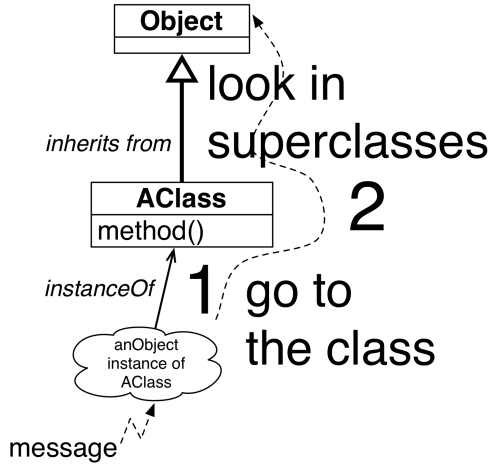
```
Dice class >> new

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

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

Sending a Message: Lookup + Apply on Receiver



Remember: Method Lookup

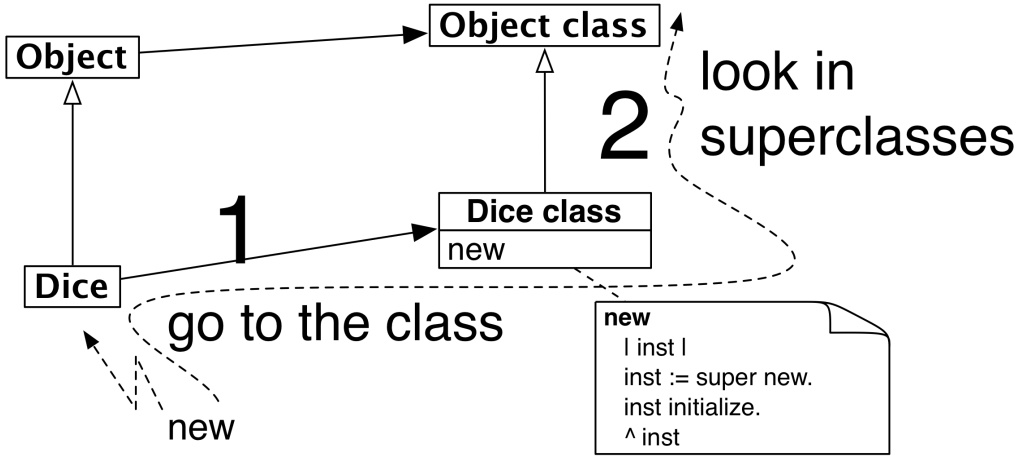


Solution

```
Dice class >> new

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

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

Solution


Object
Object class
2
look in
superclasses
1
Dice class
new
Dice
go to the class
new
new
| inst |
inst := super new.
inst initialize.
^ inst

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?

Challenge!

Imagine we have

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

What is the result of A new foo and why?

Resources

- Pharo mooc - Videos W6S01: `http://mooc.pharo.org`
- Pharo by Example: `http://books.pharo.org`

A course by Stéphane Ducasse

http://stephane.ducasse.free.fr

Reusing some parts of the Pharo Mooc by

Damien Cassou, Stéphane Ducasse, Luc Fabresse

http://mooc.pharo.org

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