Advanced Object-Oriented Design

Did You Really Understand Super?

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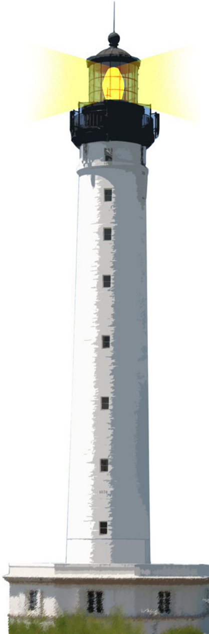
http://www.pharo.org



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
```

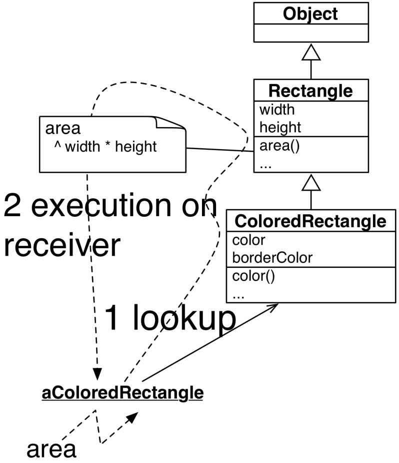
- No super is not the superclass
- No inst is not an instance of the superclass

Hint 2: super is the message receiver

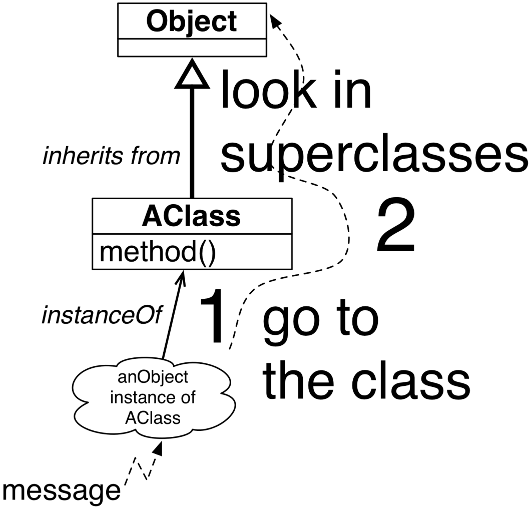
```
Die class >> new

 | 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



Remember: Method lookup

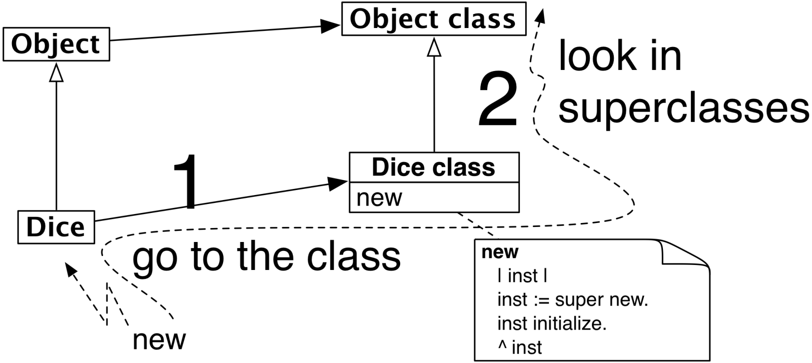


Solution

```
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



```
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 yourself

Imagine we have:

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

What is the result of A new foo and why?

A course by

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