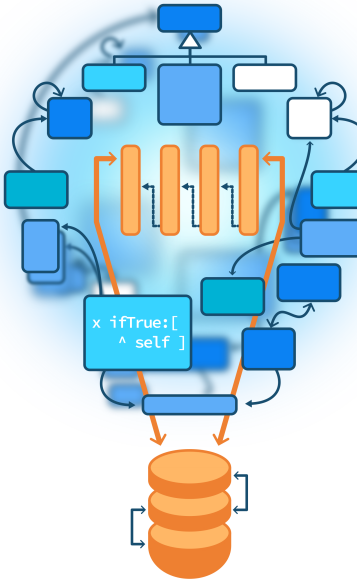
Did You Really Understand Super?

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



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
```

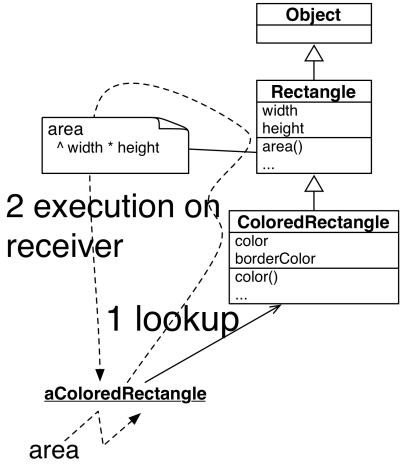
- No, super is not the superclass
- No, inst is not an instance of the superclass

Hint 2: super is the message receiver

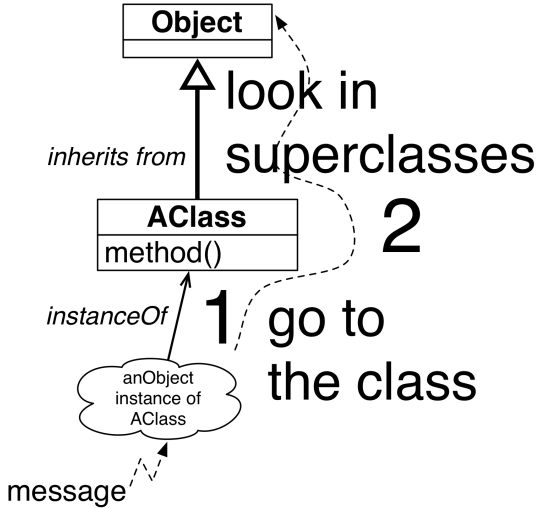
```
Die class >> new

  | 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

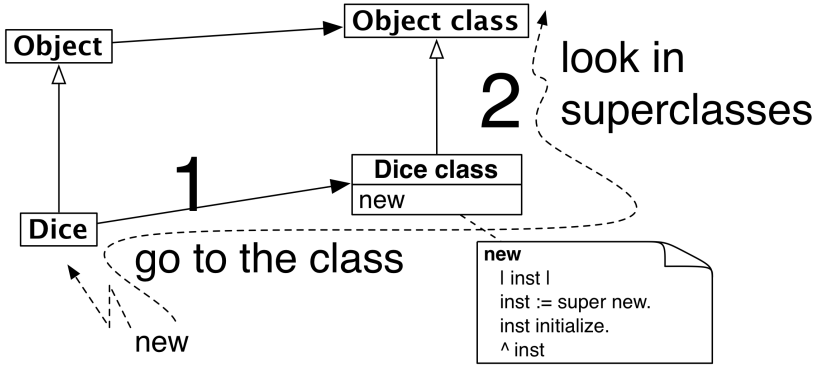


Solution

```
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


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 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?

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