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

1. go to the class
2. look in superclasses

Object

AClass

method()
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

1. go to the class

2. look in superclasses

Dice

Object

Object class

Dice class

new

new

| l inst l |
| 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.
Imagine we have:

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

What is the result of `A new foo` and why?
Produced as part of the course on http://www.fun-mooc.fr

Advanced Object-Oriented Design and Development with Pharo

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