Ruby

Week 8

MidTerms!

- So Far Look Good.
- Progress Reports will be emailed

Next Week's Class

- Remote using GoToMeeting
- Optional In-Class (Cheri will be here)
- Same GTM as always

Final

- Tic-Tac-Toe feature
- Write a Tic-Tac-Toe game for the console with cucumber tests

Homework Review

- Cucumber
- Pirate Steps, Pirate.rb
- i18n (where 18 stands for the number of letters between the first i and last n in internationalization, a usage coined at DEC in the 1970s or 80s)

Survey

- Cheri will hand-out and collect
- I’ll be downstairs - please send for me when you are done.

MetaProgramming

- Code That Writes Code!!
- DSLs
- DRY

MetaProgramming

- send
- instance_eval
- class_eval
- instance_variables
- instance_variable_set /instance_variable_get
- define_method /undef_method

MetaProgramming

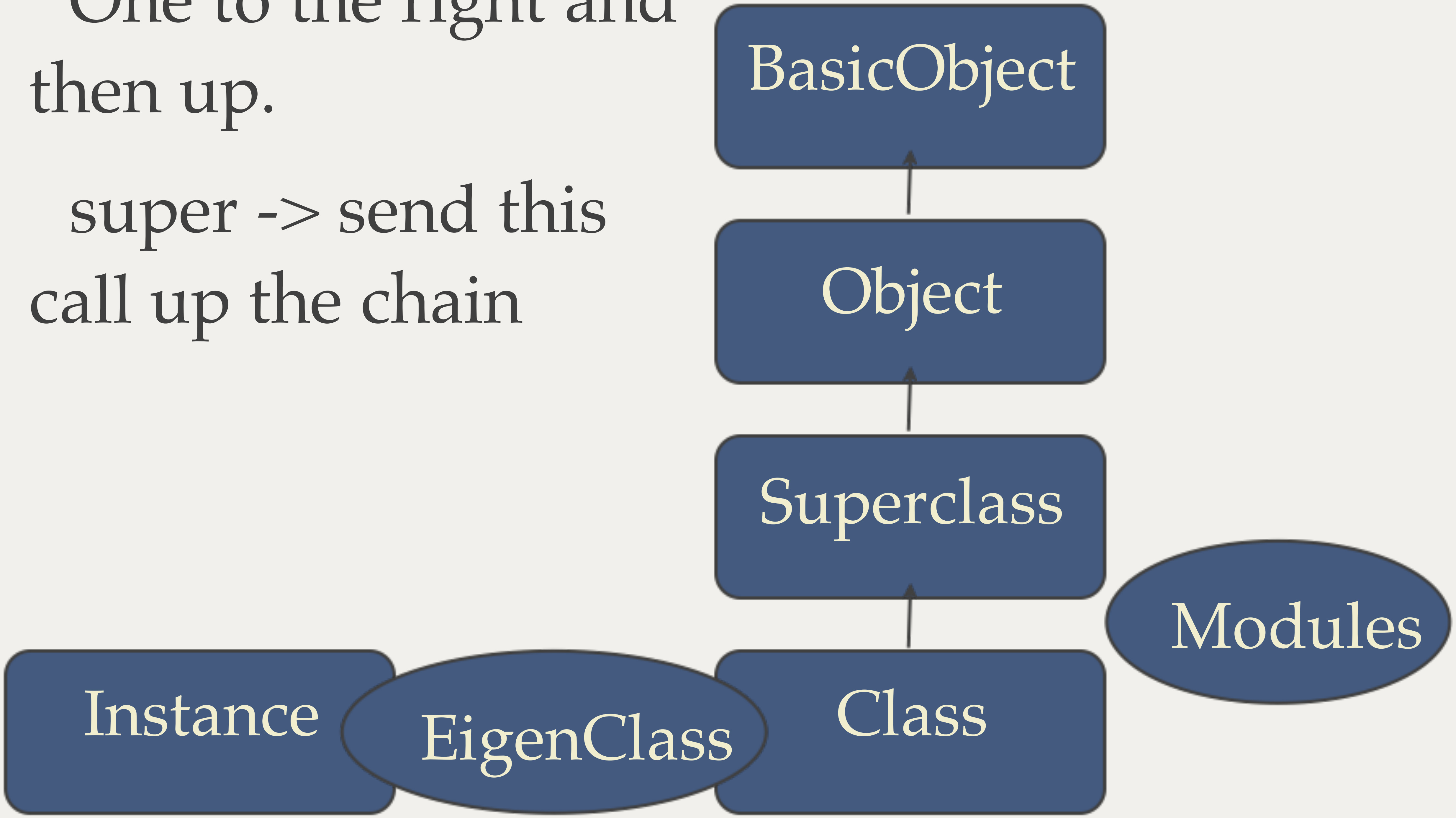
- Send: pass a message to an object, same as a method call, but can use a string.
- eval: Remember everything is just evaluated as ruby code. We are telling Ruby to run some code within a certain context (self)

Where do Methods Live?

- Klass.class_eval => Gives you an instance method for all objects instantiated from Klass.new
- Klass.instance_eval => Gives you a class method for class Klass.
- Klass.new.instance_eval => Gives you an instance method for that instance alone.

Ruby Call Chain

- One to the right and then up.
- super -> send this call up the chain



Experiment!

```
def call_chain
“#{self}.#{super}”
end
```

Object, Animal, Speaker, Person, NamedThing, Renee

Demo!

- DRY-up some code!
- couch.rb

Exercise!

- You try!
- exercises/couch.rb

Method Missing!

- Up the chain, then back!
- The final resting place of method calls (most of the time!)
- It’s Magic, and you can too! :)

Method Missing

```
def method_missing(sym, *args, &block)

puts “You asked for #{sym} with #
{args.join(“ “)}”

super

end


**def respond_to?
```

DuckTypeing

- If it quacks like a duck
  - respond_to?(:quack) => true
- Who cares if it’s a duck?

Code Like a Duck

BAD:

```
case book.class
when FictionBook
puts “This book is Fiction!”
when TextBook
puts “This book is for School!”
end
```

DuckTypeing

```
if book.respond_to? :print_out
puts book.print_out
end
```

Monkey Patching!

- Open a class and add, extend, fix, or change (break) functionality!
- With great power.... ;)

Homework

- Work on Tic-Tac-Toe and your Gems
- If you are missing anything good time to catch up
- Happy Thanksgiving!