Advanced Ruby 3 Day

Ruby and Its Many Wonders

Welcome!


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NIRD

Hello!

- *Name*
- *Experience*
- *Class Goals*

Materials

- *Github*
- *nirds organization*
- *Advanced-Ruby-3-Day-Class*
- *https://github.com/nirds/Advanced-Ruby-3-Day-Class*

Schedule

- 9am - 10:30am Class
- 10:30am - 10:45am Break
- 10:45am - 12pm Class
- 12pm - 1pm Lunch
- 1pm - 2:30pm Class
- 2:30pm - 2:45pm Break
- 2:45pm - 4:45pm Class
- 4:45pm - 5pm questions

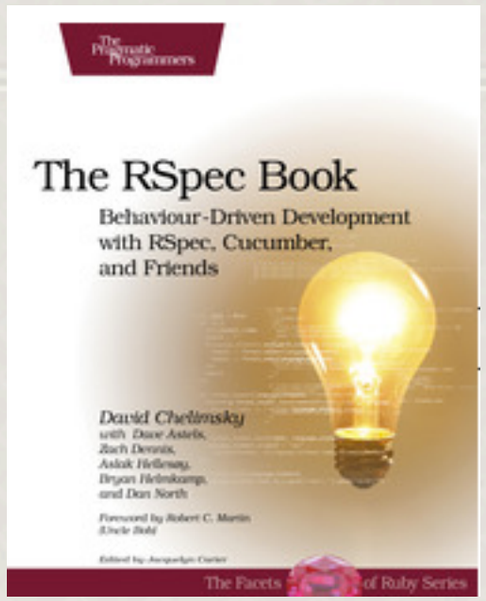
Class Structure

- *Lecture*
- *Demo*
- *Exercise*
  - *questions!!*

Topics

- *Rspec/ Minitest/ TDD*
- *Blocks*
- *Range Exercise*
- *Enumerable*
- *Objects*
- *Call Chain*
- *Method Missing*
- *Inheritance*
- *Modules*
- *OOP / SOILD*
- *Monkey Patching*
- *Refinements*
- *DSL / REPL*
- *MetaProgramming*
- *Concurrency and Multithreading*
- *Instrumentation*

RSpec



- *Code that Tests code!*
- *Test Driven Development*
  - *Red-Green-Refactor*
- *Test First Teaching*
- *Ruby Domain Specific Language (DSL) for testing*

RSpec Specifics

- *Describe (What) / Context (When)*
- *It (Does)*
- *Should or Expect*
- *Matchers*
  - *http://www.rubydoc.info/gems/rspec-expectations/3.0.0/RSpec/Matchers*
  - *https://github.com/rspec/rspec-collection_matchers*

MiniTest

- *Fast*
- *Pure - Ruby (less magic)*
- *Supports unit/spec syntax*

MiniTest Specifics

- *setup + methods*
- *before + describe + it*
- *https://github.com/seattlerb/minitest*
- *http://www.rubyinside.com/a-minitestspec-tutorial-elegant-spec-style-testing-that-comes-with-ruby-5354.html*

Test Driven Development

- *Gather Requirements*
- *Start Simple*
- *Write a Test*
- *Simple Code to Make it Pass*
- *Write Another Test*
- *Only write code that is required by a test.*
- *What test made you write that?*
- *Refactor only tested code.*
- *Add tests for existing code.*

Practice!

- *Pig Latin Translator*
- *Pig Latin Rules:*
  - *Consonants at the start, move to the end, add "ay"*
    - *ex: happy -> appyhay*
  - *Vowels at the start, just add "ay"*
    - *ex: apple -> appleay*
  - *"qu" at the start acts as one consonant sound*
    - *ex: quick -> ickquay*

Exercise

- *Pair up*
- *TDD Practice*
- *pig_latin_spec.rb As Reference.*

Regular Expression Help

- *Rubular!*
- *http://rubular.com/*

Other Practice Problems

- *http://codekata.com/*
- *http://katas.softwarecraftsmanship.org/*
- *http://rubyquiz.com/*
- *https://projecteuler.net/*
- *http://www.codequizzes.com/*

Ranges

- *1..5*
- *1...5*
- *a..z*
- *OddNumber.new(1)..OddNumber.new(5)*

Range Demo

- *TDD - Need a Range of Odd Numbers*
- *odd_number.rb*

Exercise!

- *TDD Even Number*
  - *Write a passing rspec file called even_number_spec.rb that tests a class called EvenNumber.*
  - *The EvenNumber class should:*
    - *Only allow even numbers*
    - *Get the next even number*
    - *Compare even numbers (Comparable!)*
    - *Generate a range of even numbers*

Blocks

- *A method with no name!*
- *Dynamic method definition*

Block Syntax

- *{}*
- *do*
  - *<code>*
- *end*

Blocks: Calling and Checking

- *yield*
- *call*
- *block_given?*

Blocks with Parameters

- *yield(x)*
- *call(x)*
- *{|x|}*
- *do |x|*
  - *<code>*
- *end*

Blocks Demo

- *Time My Code! (Think Performance Monitor)*
- *timer_spec.rb*

Blocks Exercise

- *Make the worker_spec.rb file pass*

Blocks Usefulness

- *Rakefile.rb example*

Enumerable

- *Module for Collection Specific Actions*
- *Search*
- *Sort*
- *Iterate (Enumerate)*

Inject

```
total = 0

[1,2,3].each do |i|
    total += i
end

total

=> 6
```

```
[1,2,3].inject(:+)

=> 6
```

Enumerable Demo

- *monsters.rb*
- *review Inject/Reduce*

Ruby.to_SQL

- *$monsters.find_all{|i| i[:name] == "Vampire"}*
  - *Select * from monsters where name = "Vampire";*
- *$monsters.map{|i| i[:name]}*
  - *Select name from monsters;*
- *$monsters.find_all{|i| i[:legs] == 2}.map{|i| i[:name]}*
  - *Select name from monsters where legs = 2;*

Enumerable Review

- *load 'monsters.rb'*
- *$monsters*

- *How many monsters are nocturnal?*
- *What are the names of the monsters that are nocturnal?*
- *How many legs do all our monsters have?*
- *What are the 2 most common dangers and vulnerabilities of our monsters?*

Rebuild Enumerable!

- *Make the fake_enumerable_spec.rb pass!*