

How to Parse Excel with Ruby

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How to Parse Excel with Ruby

- Target Audience
 - You already use Excel
 - You want to get better at Ruby
- Skill Level
 - Intermediate-Beginner Ruby Programmer

Setup

Item	What it Does	From the Shell...
git	Configuration Management	git clone https://github.com/matthewnewell/vet.git
pry	Pry into your source code during execution	gem install pry
roo	Turns Spreadsheets into Ruby objects	gem install roo

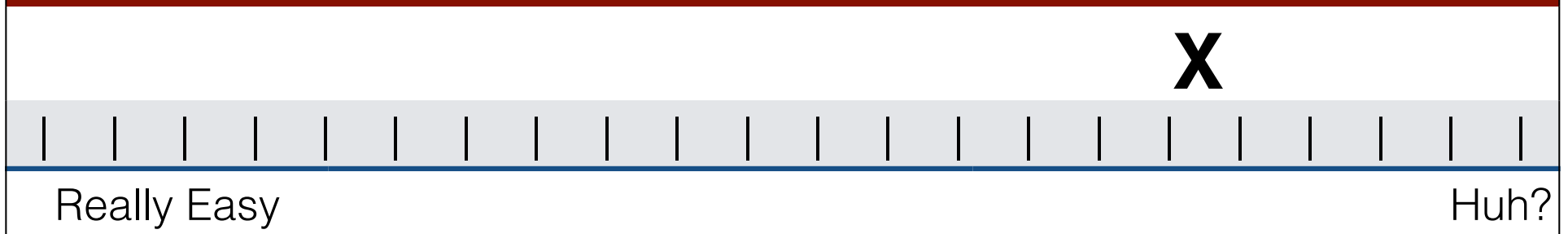
Setup

```
git clone https://github.com/matthewnewell/vet.git  
gem install roo  
gem install pry
```

Learning New Skills

Skill Type	Development Technique
Hard	Repetition Chunking
Soft	Experiment

The Learning Sweet Spot



The Little Book of TALENT
by Daniel Coyle

Setup

```
git clone https://github.com/matthewnewell/vet.git  
gem install roo  
gem install pry
```

Soft & Hard Skill Examples

Occupation	Hard Skills	Soft Skills
Quarterback	Pass Footwork Playbook	Read Defense
Musician	Chords Scales Cover Song	Improvisation Emotion Original Song
Software Developer	Language Syntax Development Stack	User Stories What to Build How to Build

Setup

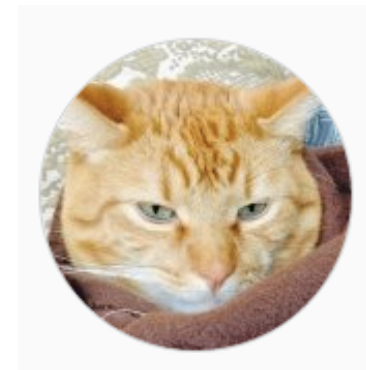
```
git clone https://github.com/matthewnewell/vet.git  
gem install roo  
gem install pry
```

My Picks: Ruby Skills Improvement

Skill Type	Best Resource
Hard	<u>rubymonk.com</u> Eloquent Ruby, R. Olsen Ruby on Rails Tutorial, M. Hartl
Soft	<u>exercism.io</u> Side Projects

Employer	ABC Animal Hospital
Job Title	Administrative Assistant
Responsibilities	List today's appointments
Data	appointments.xlsx patients.xlsx

- What types of skills are required to do this job?
- Is this a good job or a bad job?
- What should this job pay?



Version 0.0

- Open appointments.xlsx
- Filter 'Appointment Date' = today
- Report results

Pet Name	Appointment Date	Reason For Appointment	Appointment Notes
Fluffy	Monday	Runny Nose	Fluffy should rest.
Fluffy	Tuesday	Runny Nose	Fluffy should take medicine.
Rex	Wednesday	Sore Paw	

git checkout v0.1

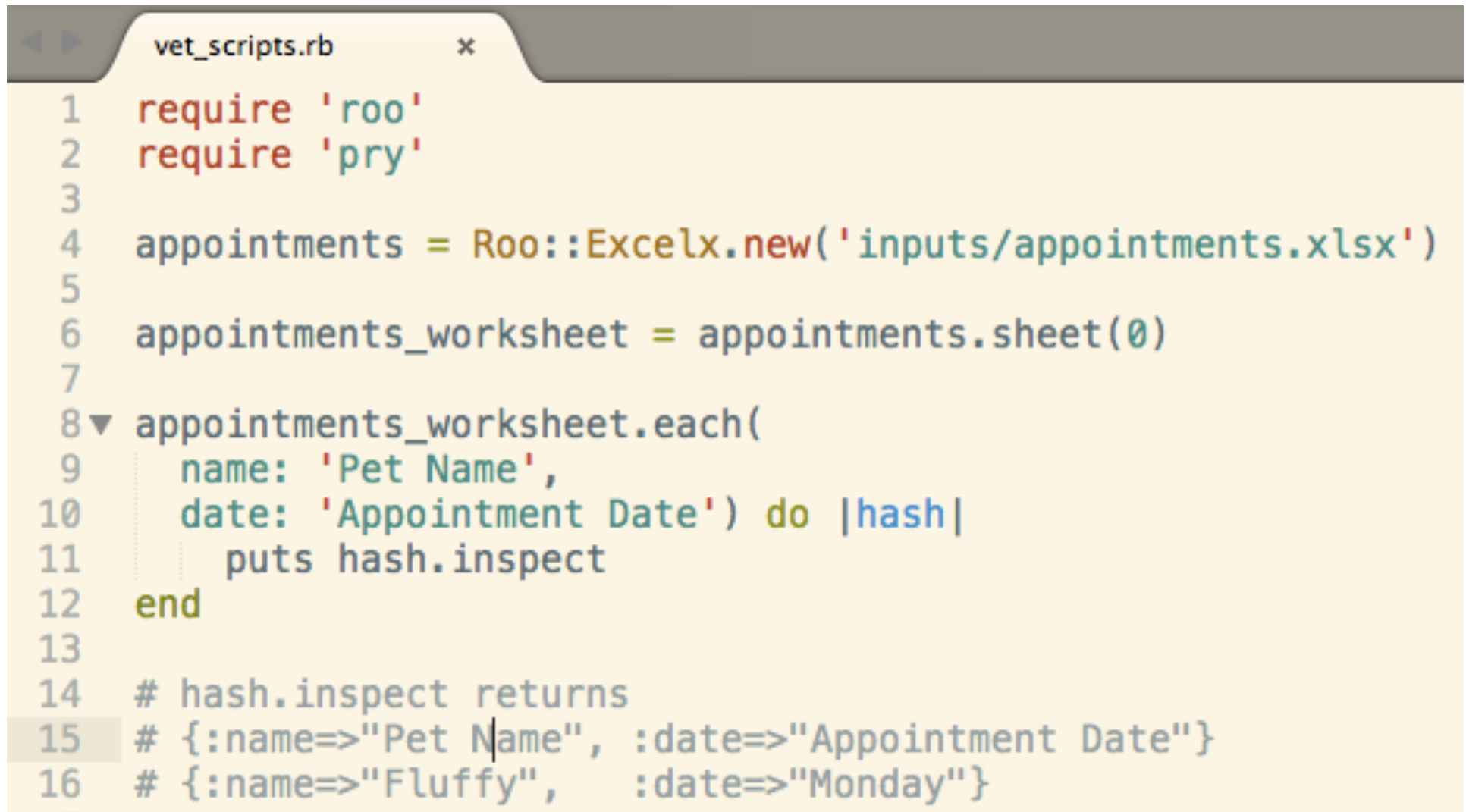
- Create a Roo object from our Excel file
- Define a variable to hold our Roo object
- Use Pry to learn about our Roo object

```
vet_scripts.rb x
1 require 'roo'
2 require 'pry'
3
4 appointments = Roo::Excelx.new('inputs/appointments.xlsx')
5
6 binding.pry
7
8 # Try these commands in pry. Type 'exit' to get out of pry.
9 # appointments
10 # appointments.class
11 # appointments.info
12 # appointments.sheet(0)
13 # appointments.sheet(0).row(1)
14
15 # More advanced users
16 # appointments.methods
17 # cd appointments
18 # ls --> displays object's instance variables
```

git checkout v0.2

- Create variable to hold the first worksheet of our Roo object
- Iterate through our Roo object & inspect result

Roo's 'each' generates a hash with columns supplied for each row!



```
vet_scripts.rb x
1 require 'roo'
2 require 'pry'
3
4 appointments = Roo::Excelx.new('inputs/appointments.xlsx')
5
6 appointments_worksheet = appointments.sheet(0)
7
8 ▼ appointments_worksheet.each(
9   name: 'Pet Name',
10  date: 'Appointment Date') do |hash|
11    puts hash.inspect
12  end
13
14 # hash.inspect returns
15 # {:name=>"Pet Name", :date=>"Appointment Date"}
16 # {:name=>"Fluffy", :date=>"Monday"}
```

git checkout v0.3

- Pry into the iteration and learn about our object

```
vet_scripts.rb x
1  require 'roo'
2  require 'pry'
3
4  appointments = Roo::Excelx.new('inputs/appointments.xlsx')
5
6  appointments_worksheet = appointments.sheet(0)
7
8  appointments_worksheet.each(
9    name: 'Pet Name',
10   date: 'Appointment Date'
11  ) do |hash|
12    puts hash.inspect
13    binding.pry
14  end
15
16  # Try these commands in pry. Type 'exit' to continue iteration.
17  # hash.keys
18  # hash.values
19  # hash[:name]
20  # hash[:date]
```

git checkout v0.4

- Copy data from our Roo object into a new hash

```
4  appointments_hash = Hash.new
5
6  appointments = Roo::Excelx.new('inputs/appointments.xlsx')
7  appointments_worksheet = appointments.sheet(0)
8
9  appointments_worksheet.each(
10     name: 'Pet Name',
11     date: 'Appointment Date'
12   ) do |hash|
13
14     hash_key = hash[:name]
15
16     appointments_hash[hash_key] = {
17       name: hash[:name],
18       date: hash[:date]
19     }
20   end
21
22   binding.pry
23   |
24   # Try these commands in pry.
25   # appointments_hash
26   # appointments_hash["Rex"]
27   # appointments_hash["Rex"][:date]
```

git checkout v0.5

- Refactor hash key with a unique ID
- Make hash key into a symbol

```
4  appointments_hash = Hash.new
5  appointments_hash_counter = 1
6
7  appointments = Roo::Excelx.new('inputs/appointments.xlsx')
8  appointments_worksheet = appointments.sheet(0)
9
10 appointments_worksheet.each(
11   name: 'Pet Name',
12   date: 'Appointment Date'
13 ) do |hash|
14
15   hash_key = "id_#{appointments_hash_counter}".to_sym
16
17   appointments_hash[hash_key] = {
18     name: hash[:name],
19     date: hash[:date]
20   }
21
22   appointments_hash_counter += 1
23 end
24
25 binding.pry
```

git checkout v0.6

- Find Wednesday appointments

```
10 appointments_worksheet.each(  
11   name: 'Pet Name',  
12   date: 'Appointment Date'  
13   ) do |hash|  
14  
15     hash_key = "id_#{appointments_hash_counter}".to_sym  
16  
17     appointments_hash[hash_key] = {  
18       name: hash[:name],  
19       date: hash[:date]  
20     }  
21  
22     appointments_hash_counter += 1  
23   end  
24  
25 appointments_hash.each do |key, value|  
26   if value[:date] == "Wednesday"  
27     puts "#{value[:name]} has an appointment on #{value[:date]}."  
28   end  
29 end
```

git checkout v0.7

- Refactor into a class

```
4 class Appointments
5
6   def initialize
7     @appointments_hash = Hash.new
8     @appointments_hash_counter = appointments_hash_counter = 1
9   end
10
11  def read_excel_file(file_name)
12    workbook = Roo::Excelx.new(file_name)
13    @worksheet = workbook.sheet(0)
14  end
15
16  def add_excel_data_to_appointments_hash
17    @worksheet.each(name: 'Pet Name', date: 'Appointment Date') do |hash|
18      hash_key = "id_#{@appointments_hash_counter}".to_sym
19
20      @appointments_hash[hash_key] = {
21        name: hash[:name],
22        date: hash[:date]
23      }
24
25      @appointments_hash_counter += 1
26    end
27  end
28
29  def report_todays_appointments(date)
30    todays_appointments = []
31    @appointments_hash.each do |key, value|
32      if value[:date] == date
33        todays_appointments << "#{value[:name]} has an appointment on #{value[:date]}."
34      end
35    end
36    puts todays_appointments
37  end
38 end
```


Note methods have descriptive names and a single purpose!

git checkout v0.7

- Create an instance of the class
- Call the methods in the class instance

```
4  class Appointments
5
6      def initialize
7          @appointments_hash = Hash.new
8          @appointments_hash_counter = appointments_hash_counter = 1
9      end
10
11     def read_excel_file(file_name) ...
14     end
15
16     def add_excel_data_to_appointments_hash ...
27     end
28
29     def report_todays_appointments(date) ...
35     end
36 end
37
38 check_appointments = Appointments.new
39 check_appointments.read_excel_file('inputs/appointments.xlsx')
40 check_appointments.add_excel_data_to_appointments_hash
41 check_appointments.report_todays_appointments("Wednesday")
```


New Job Responsibilities

- Every Monday, email a 5 day lookahead of appointments
- Send a reminder text message to each pet owner one day to appointment
- Retrieve a patient's medical history and owner information from the Excel files
- Write a new Excel file for each appointment. Associate this file to the patient ID in patients.xlsx

Employer	ABC Animal Hospital
Job Title	Administrative Assistant/ Software Developer
Responsibilities	Develop information systems to streamline office administration
Data	rails new animal_hospital

- What types of skills are required to do this job?
- Is this a good job or a bad job?
- What should this job pay?



git checkout master

- vet_scripts.rb is now blank
- Run vet_scripts_test.rb
- Update vet_scripts.rb until all of the tests pass

Homework Assignment

```
ruby vet_scripts_test.rb
```



puma_kitty

FOLLOWING



Abe Puma Newell Follow for adorable cat pictures of the 19 pound kitty and friends

17 posts

24 followers

19 following

How to Parse Excel with Ruby: Skills Development

Skill Type	Development Technique	Recommendation
Hard	Repetition, Chunking	<ul style="list-style-type: none">• git checkout v0.x do each one several times• git checkout master make all tests pass
Soft	Experiment	<ul style="list-style-type: none">• Try some of the “New Job Responsibilities” <p>example: send reminder text</p>