



Hashes ~/~Dictionaries

Learn to Categorize

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Summary: Keep a friend at your side, and study in the path of inspired ones who have given their knowledge out for free.

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Chapter I

Before you Start!

Create your project folder:

1. From your project page on intra, copy the git repository link. Now, in the terminal type "git clone " and paste the link. After the link and before pressing enter, write a name for the new folder. Cloning your git repository always creates a new folder.
2. cd into the folder you just created and from now on, save your work there. Use the command "mkdir <name>" to create new folders. Put each puzzle from this project in a folder with the same name.

Chapter II

Format your Code

Each 42 challenge you turn in must adhere to the following format:

```
#!/usr/bin/env ruby

# This is what my program does
# By <userid>

def function_a
  #code
end

def function_b
  #code
end

def main(ARGV)
  #main method
  function_a
  function_b
end

main(ARGV)
```


- Always begin with the "`#!/usr/bin/env ruby`" statement. This tells your terminal to run the program using Ruby. In python, the first line is "`#!/usr/bin/env python`".
- Always add a comment stating what this program is for, some hints to help others use or understand it, and your name or intra ID.
- Do not write any code outside of functions except for one line, at the end of your program, which calls the `main()` function.
- The `(ARGV)` parameter is not always needed. In Python it is `sys.argv`.



Reference your chosen intro to coding class to learn about functions/methods (The keyword "`def`" means "define function...").

Chapter III

Exercise 0: Hashes/Dicts

	Exercise
Turn-in directory : ex00	
Files to turn in : ex00.rb or ex00.py	
Notes : Ruby Hash Python Dictionary	

Using the attached file names.txt, store the information in a hash or dictionary where first names are associated with last names.


Use your hashtable to identify which first names are shared by more than one student, mentor or admin in h2s. Print out each first name that repeats in the set followed by an array of the last names associated with that first name.

```
?> ruby ex00.rb
# There are many ways to take the input in... you could use gets() and copy/paste the whole thing in
the terminal here
Eliot (2): [Tregoning, vanHeuman]
```

* Note: This is not a real example. Eliot vanHeuman spells his name with one 'l' and Elliot Tregoning spells it with two. ;-)

Chapter IV

Exercise 1: Memorize

	Exercise
Turn-in directory : ex01	
Files to turn in : ex01.rb or ex01.py	
Notes : Use the capitols.txt file provided on the project page. You do not need to turn that file in, but you can include it in your repository.	

- Create a script `ex05.rb` which reads in the provided comma-delimited file of US States and capitals and stores this information in a hashtable.
- Next, on an infinite loop, print "Ready: " and wait for the user to enter the name of a state or capital. For each query print out the associated capital or state and go back to Ready state.
- The program exits when the user types "Done". If the input is invalid, answer "nil".

```
?> ruby ex01.rb capitals.txt
Ready: Arizona
Phoenix
Ready: Montana
Helena
Ready: MacaroniAndCheese
nil
Ready: Pierre
South Dakota
Ready: Done
?>
```

Chapter V

Grade your work!

Turn in your work by typing three commands in order:

- `git add *`
- `git commit -m "<your comments here>"`
- `git push`
- If you have an error during the git push, you may need to refresh your authentication ticket. Do this by typing `kinit <username>` and then typing your intra password.

Then, go to your project page and click "Set the project as finished". Next click "Subscribe to defense" and schedule two peer corrections. If you run out of correction points (check your number on your profile page!), it means you need to open correction slots and correct other people in return. :)