

Hashes



Homework Questions



- `advanced_calculator_spec.rb`

Reality Check:



What is the difference between an array and a hash?

Reality Answers:



- An array is an **ordered** list of values.
 - An array has an **index** that must be an integer.
- A hash is an **unordered** set of key/value pairs
 - A hash has a **key** that can be any object (number, string, another hash, etc.)

Creating a Hash



```
h = { "a" => 100, "b" => 200 }  
h["a"]
```

```
h = { 1 => "a", "b" => "hello" }  
h[1]
```

Operations on Hashes: Merge



```
h1 = { "a" => 100, "b" => 200 }  
=> { "a"=>100, "b"=>200}  
h2 = { "b" => 254, "c" => 300 }  
=> { "b"=>254, "c"=>300}
```

```
h3 = h1.merge(h2)  
=> { "a"=>100, "b"=>254, "c"=>300}  
h1  
=> { "a"=>100, "b"=>200}
```

```
h1.merge!(h2)  
=> { "a"=>100, "b"=>254, "c"=>300}
```

Operations on Hashes



```
h = { "a" => 100, "b" => 200 }  
h.delete("a")
```

```
h = { "a" => 100, "b" => 200, "c" =>  
      300, "d" => 400 }  
letters = h.keys
```

```
h = { "a" => 100, "b" => 200, "c" =>  
      300 }  
numbers = h.values
```

Select



```
>> h = { :today => 5, :tomorrow => 12, :yesterday => 16 }  
=> { :yesterday=>16, :tomorrow=>12, :today=>5 }
```

```
>> h.select { |k, v| v > 10 }  
=> [[:yesterday, 16], [:tomorrow, 12]]
```


Exercise



- Pull down git repo
- Load hash_exercise.rb into irb
- Using what you learned about accessing hash values, find the following:
 - Brian's favorite color
 - Ralph's birthday
 - An array of everyone's names
 - An array of everyone's information
 - Access the hash of all of Chris's information
 - Make another hash called 'gregs_hash' with his city, birthday & favorite color. Merge it into @person_hash
 - Access the hash of all of Greg's info from @person_hash
 - Remove Lisa from the @person_hash

Another Exercise



- `translator_spec.rb` (from github repo)
- If you finish, start on `array_sum_exercise.rb`

Tic Tac Toe & Sinatra Lab Time



- Features you could add to your game:
 - Automatically detects whose turn it is
 - Congratulates winner
 - A game board with links that the players can click to make their mark
 - A form so they players can enter their names
 - A score board of past high scores
 - Use your imagination!

Homework



- Read Chapter 6 & 9
- `translate_spec.rb`
- Ruby Koans
 - `about_hashes.rb`
 - `array_test.rb`
 - `about_arrays.rb`
 - `about_methods.rb`
 - `about_class_methods.rb`
- tic tac toe in sinatra