

# INTRO TO RAILS

Lesson 3: Computational Thinking Con't (Data  
Collections and Loops)

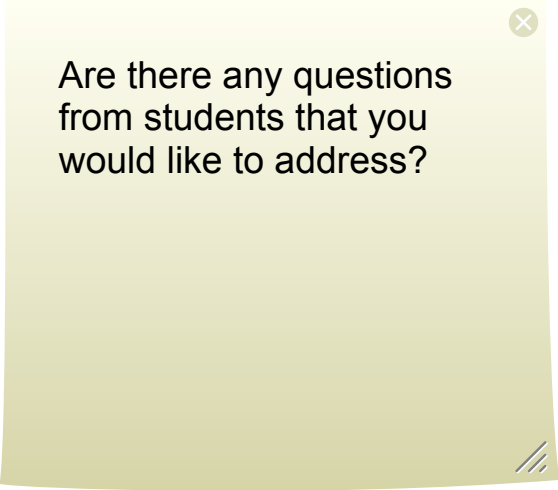
Insert Instructor Name  
Title, Company

- Quiz
- Home Work Review
- Data Collections (Arrays and Hashes)
- Iteration
- Loops in Ruby

# QUIZ

1. What is the purpose of the modulus % operator?
2. How and why would you use multiple words in a variable name?
3. What if anything must be done before printing a number?
4. How do you display variable values within a string?
5. How can you test whether a is not equal to b?

# HW - REVIEW



Are there any questions  
from students that you  
would like to address?

# **DATA COLLECTIONS**

# ARRAYS

What are arrays?

# ARRAYS

[]

["John"]

["John", "Paul", "George", "The Drummer"]

# ARRAYS

What is an index?

What is zero indexing?



# ARRAYS

```
band = ["John", "Paul", "George", "The Drummer"]
```

```
band[0]  
=> "John"
```

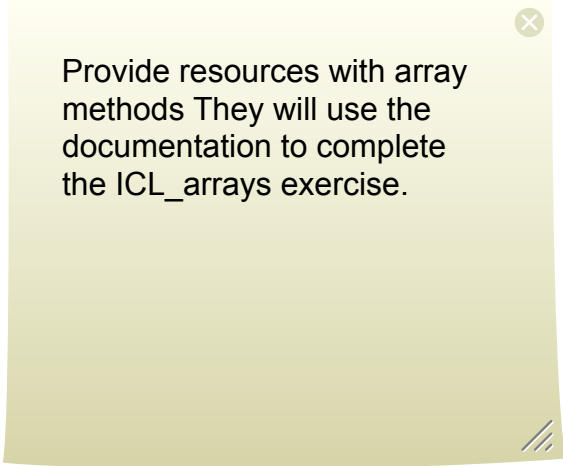
```
band[3]  
=> "The Drummer"
```

This can also be demonstrated in using the irb.

Should go to arrays.rb after this explanation.

# ARRAYS

Why would you use an array?



Provide resources with array methods They will use the documentation to complete the ICL\_arrays exercise.

# HASHES

What is a hash?



# HASHES

{

{ "Dallas" => "Texas" }

{ "Dallas" => "Texas", "Brooklyn" => "New York" }

# HASHES

{

{ :Dallas => "Texas" }

{ :Dallas => "Texas", :Brooklyn => "New York" }

# HASHES

{

{Dallas: "Texas" }

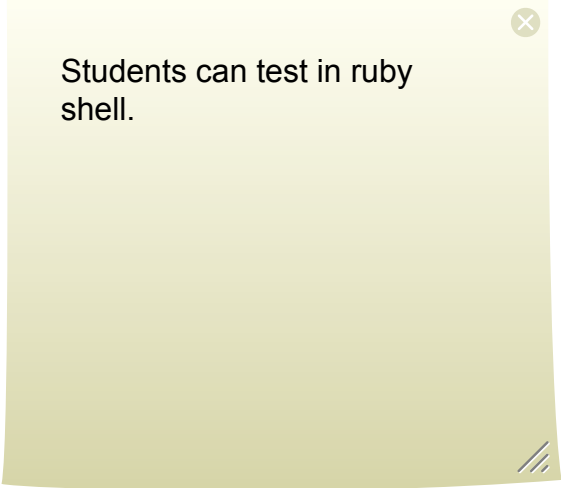
{Dallas: "Texas", Brooklyn: "New York" }

# HASHES

```
state = { Dallas: "Texas", Brooklyn: "New York" }
```

```
puts state[:Dallas]  
=> "Texas"
```

```
state[:Brooklyn] = "New York"  
puts state[:Brooklyn]  
=> New York
```



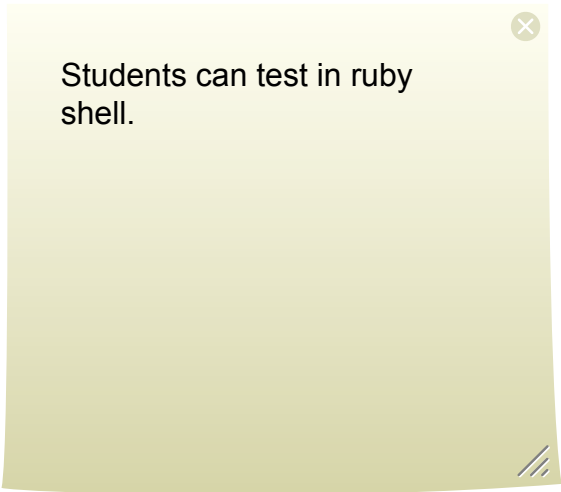
Students can test in ruby shell.

```
band = Hash.new  
band[:singer] = "Paul"  
band.has_key?(:singer)  
=> true
```

```
band.has_value?("Lady Gaga")  
=> false
```

```
band.empty?  
=> false
```

```
band.size  
=> 1
```



Students can test in ruby shell.



# HASHES

Why would you use a hash?

When do you use an array and when do you use a hash?

Insert resources of ruby hash table documentation.

Now is a good time to go over  
ICL\_arrays.rb  
ICL\_hashes.rb

# **ITERATIONS AND LOOPS**

```
3.times do  
  puts "I Heart Rails!"  
end
```

What will the output be?

```
3.times do  
  puts "I Heart Rails!"  
end
```

```
=> "I Heart Rails!"
```

```
=> "I Heart Rails!"
```

```
=> "I Heart Rails!"
```

# ITERATION

What is iteration?

Why would you need repeat yourself?

In your explanations try not to use loop syntax. Students have a hard time understanding the concept of loops because they are abstract. Try to explain iteration as repeating steps/sequences, and let students grasp the concept. loops.irb in class lab will allow you to explain syntax.


# LOOPS

What are the different kinds of loops?

loops.rb

# LOOPS

When should you add loops to your code?



Good time to do ICL\_loops.rb

