

BEWD CLASS 04

COLLECTIONS AND APIS

AND EXCEPTIONS TOO

GIT TOGETHER: PULL

Pull to your local repo from upstream!

```
git pull upstream master
```

GIT TOGETHER: PUSH

Make sure that you have pushed your homework to your fork, and have created a pull request to upstream!

Make sure that you know what all these terms mean!

```
git push origin master
```



AGENDA

- Brief intro to Exceptions
- Quarter Final Quiz (30 minutes)
- APIs (30 minutes)

LAB

Practical application of Collections, Loops and APIs

(EXCEPTION)AL ERRORS!

What is an Exception?

It's a way for your program to handle errors.
Otherwise, you'd never know that something went wrong.

```
» ruby qf_fizz_buzz.rb
```

```
qf_fizz_buzz.rb:18:in `assert_equal': Expected nil to match 1 (RuntimeError)  
    from qf_fizz_buzz.rb:22:in `<main>'
```

WHAT ARE THEY GOOD FOR?

Exceptions is how you know what is wrong with your code, using a helpful output called a call stack.

```
qf_fizz_buzz.rb:18:in `assert_equal': Expected nil to match 1 (RuntimeError)  
    from qf_fizz_buzz.rb:22:in `<main>'
```

- qf_fizz_buzz.rb - file name
- :18 - line number where the error is (probably)
- assert_equal - name of the method where it happened
- "Expected nil to match 1" - Reason for the Exception
- RuntimeError - the Type of error (sometimes a good hint)

EXCEPTIONS REVIEW

There's a lot more to Exceptions, but you'll learn that as you go.

For now, it's a useful tool for finding problems in your code.

Any questions?

QUIZ TIME!

FizzBuzz, used in interviews and school applications
30 minutes!

Do this by yourself. If you have questions, ask me or a TA!

```
cd 04_Collections_APis/starter_code  
subl ex_fizz_buzz.rb
```

- Write a program that prints numbers from 1 to 100.
- For multiples of 3 print "Fizz" instead of the number
- For multiples of 5 print "Buzz" instead.
- For multiples of both 3 and 5 print "FizzBuzz" instead.

FIZZBUZZ QUIZ REVIEW

Any questions?

APIS

GUI is Graphical User Interface:
a way for users to interact with a website.

<http://mashable.com/>

API is Application Programming Interface:
a way for programs to interact with a website.

<http://mashable.com/stories.json>

MORE ABOUT APIS

Application Programming Interface

An API can also be a way for two things to interact with each other without knowing about all of the stuff inside.

- Cars have APIs.
- Web sites have APIs
- Objects have APIs.

WHY USE APIS?

You can read data from other web sites
Your web site can provide data to others

APIs are a basic skill for designing Objects!

APIs are also very important in Rails!

WEB APIS USE 'JSON' TO SHARE DATA

"JavaScript Object Notation"

It was originally created for JavaScript, but pretty much everything uses it now, even some databases.

The syntax is very similar to Ruby hashes.

```
JSON: [{ "NY": "New York", "LA": "Los Angeles", "SYD": "Sydney", "LDN": "London" }]
```

```
ruby: [ { "NY" => "New York", "LA" => "Los Angeles", "SYD" => "Sydney", "LDN" => "London" } ]
```

That makes it really easy to use with Ruby!

APIS WITH RUBY

1. Ask for some data
2. Convert it into a format we can work with
3. Do cool stuff

How to get started:

```
gem install rest-client
```

JSON tools come pre-installed with Ruby!

```
require 'json'  
reddit_json = JSON.load(RestClient.get('http://www.reddit.com/.json'))
```

APIS

INSTRUCTOR DEMONSTRATION

Ask questions if you have them!

LAB TIME!

Using APIs and Collections in a real world setting!

You will now do the same exercise I just showed you to read stories from Reddit, and then add Mashable and Digg.

Pair program!! Pick a partner to hack with.

- Open "ex_teddit_hashes.rb" from lesson 03
- Open "ex_teddit_api_news.rb" in Sublime Text
- Paste your code from "ex_teddit_hashes.rb" into the new file
- Follow the instructions in the new file.

(HINT: Digg has a tricky part!)

BREAK!