

# Introduction to the Data Science Immersive (DSI)



# Overview

- Bird's Eye
  - Your Instructors!
  - Daily Schedule
  - 12 Week Schedule
- Details
  - Assignments & Assessments
  - Attendance
- Github Intro with Jancsy

# Your instructors!

- Tammy Lee – tammy@galvanize.com
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- Natalie Hunt – natalie.hunt@galvanize.com
- Zein Tawil – zein.tawil@galvanize.com
- Trenton Osborn – os.trenton@gmail.com

You can reach us via slack 

# Daily Schedule

On most days

9:30 am: Mini-quiz

10:00 am: Lecture

11:00 am: Morning Sprint (individual)

1:00 pm: Lunch

2:15 pm: Lecture

3:15 pm: Afternoon Sprint (pair)

6:30 pm: Day ends, solutions released

# 12 Weeks in a Flash!

**Week 1:** Software Engineering & EDA

**Week 2:** Statistical Inference and Probability

**Week 3:** Regression and Regularization

**Week 4:** Supervised Learning

**Week 5:** Natural Language Processing (NLP)

**Week 6:** Unsupervised Learning



*Break Week (+ Labor Day): 8/31 – 9/7*



**Week 7:** Data Engineering

**Week 8:** Data Visualization, Fraud Prediction Case study

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**Week 9 :** Capstone Project

**Week 10:** Capstone Project

**Week 11:** Capstone Project & Hiring Day

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**Week 12:** Interview Prep

# Get acquainted with...

Our Home: <https://github.com/zipfian/welcome/tree/SF-July2015-Cohort>

Solutions: <https://github.com/zipfian/solns-july2015>

Slack: <https://gschool.slack.com/> #sf\_ds\_july\_2015

Events Calendar: emails + reminders

# Assessments

Consist of

- Mini-quizzes (most mornings)
- Individual sprints (`individual.md`)
- Pair sprints (`pair.md`)
- Assessments (usually every couple weeks)

To help you track your progress and understanding of the material so that you can focus on the skills you need to improve

# Attendance

- Please do your best to come to class everyday.  
It is an accelerated program that builds on itself!
- Let Tammy know if you won't be here



# Using Git for Today's Assessment

# Find the Assessment on GitHub

<https://github.com/zipfian/assessment-day1>

The screenshot shows the GitHub interface for the repository `zipfian / assessment-day1`. The repository is marked as **PRIVATE**. The top navigation bar includes links for `Pull requests`, `Issues`, and `Gist`. The repository statistics show 24 Unwatch, 0 Stars, and 137 Forks. The main content area displays the repository description and website fields, both currently empty. Below these fields, a summary bar indicates 14 commits, 3 branches, 0 releases, and 2 contributors. A green button with a fork icon and the text `branch: master` is visible, followed by the repository name `assessment-day1` and a plus sign for creating a new branch. A light blue bar labeled `update` shows the latest commit by `gioravioli` on Apr 3, with the commit hash `e9b5bf45ff`. On the right sidebar, there are links for `Code`, `Issues` (0), `Pull requests` (14), `Wiki`, and `Pulse`.

GitHub, Inc. [US] <https://github.com/zipfian/assessment-day1/>

This repository Search Pull requests Issues Gist

zipfian / **assessment-day1** PRIVATE Unwatch 24 Star 0 Fork 137

**Description** Website

Short description of this repository Website for this repository (optional) Save or Cancel

14 commits 3 branches 0 releases 2 contributors

branch: master **assessment-day1** / +

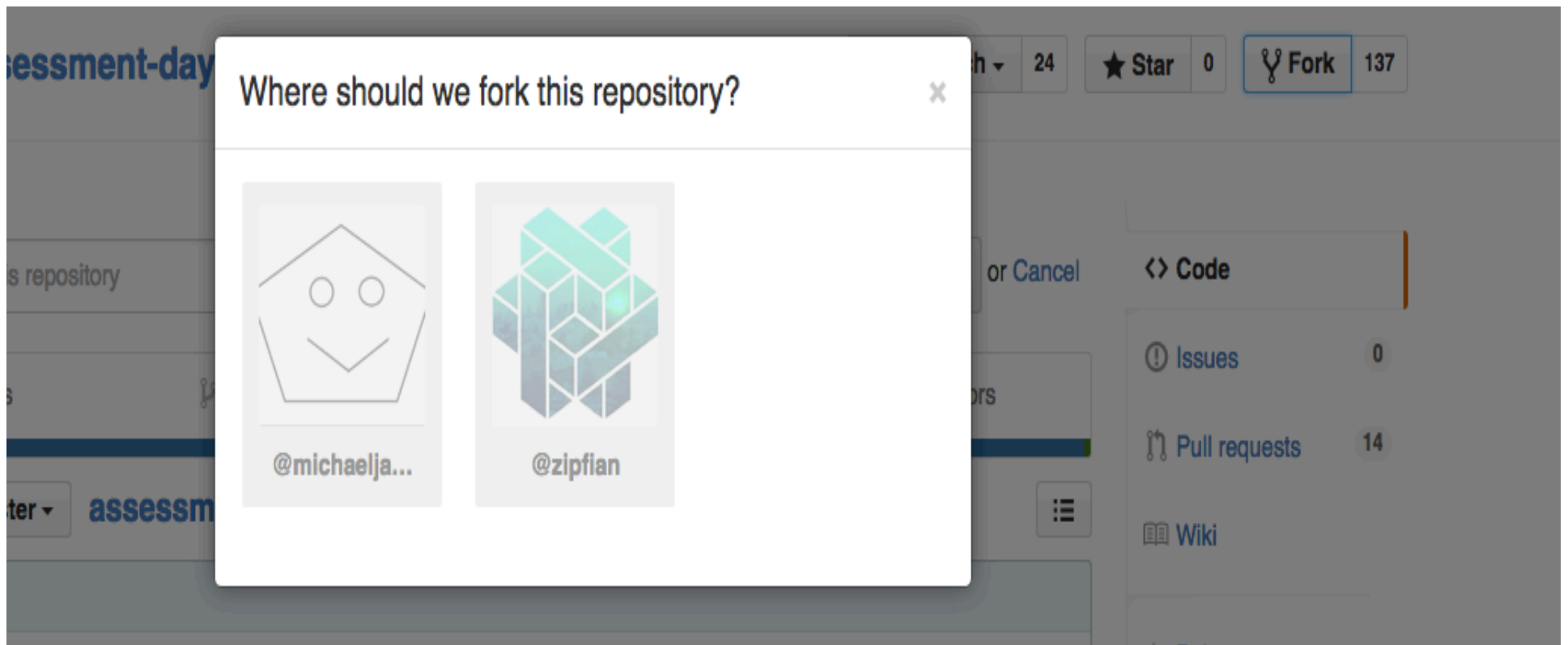
update

gioravioli authored on Apr 3 latest commit e9b5bf45ff

<> Code Issues 0 Pull requests 14 Wiki Pulse

# Fork the Assessment Repo

- click the *Fork* button on the top right
- choose your GitHub account



# Find the Assessment in Your Account

← → ↺ 🏠

GitHub, Inc. [US] https://github.com/michaeljancsy/assessment-day1


🔍 ☆ 🖨 🗨 🌟 🔒 🗨

🐙

This repository Search

Pull requests Issues Gist

📄 + 🏠

 **michaeljancsy / assessment-day1** PRIVATE

forked from zipflan/assessment-day1

👁 Unwatch 14 ★ Star 0 🍴 Fork 137

Description

Website

Short description of this repository

Website for this repository (optional)

Save or Cancel


🕒 15 commits 🌿 3 branches 📦 0 releases 👤 2 contributors

🌿 branch: master assessment-day1 / +

⋮

This branch is 1 commit ahead of zipflan:master Pull Request Compare

done with assessment

 **michaeljancsy** authored 17 minutes ago latest commit 3b70bf6691

code	done with assessment	17 minutes ago
data	SQL questions	a year ago
math	done with assessment	17 minutes ago
test	Reduce to 12 questions	a year ago

<> Code

🔗 Pull requests 0

📖 Wiki

📊 Pulse

📈 Graphs

⚙ Settings

HTTPS clone URL

https://github.com/📄

You can clone with [HTTPS](#), [SSH](#), or [Subversion](#).

# Clone the Assessment Repo Locally

```
git clone https://github.com/(your name)/assessment-day1.git
```

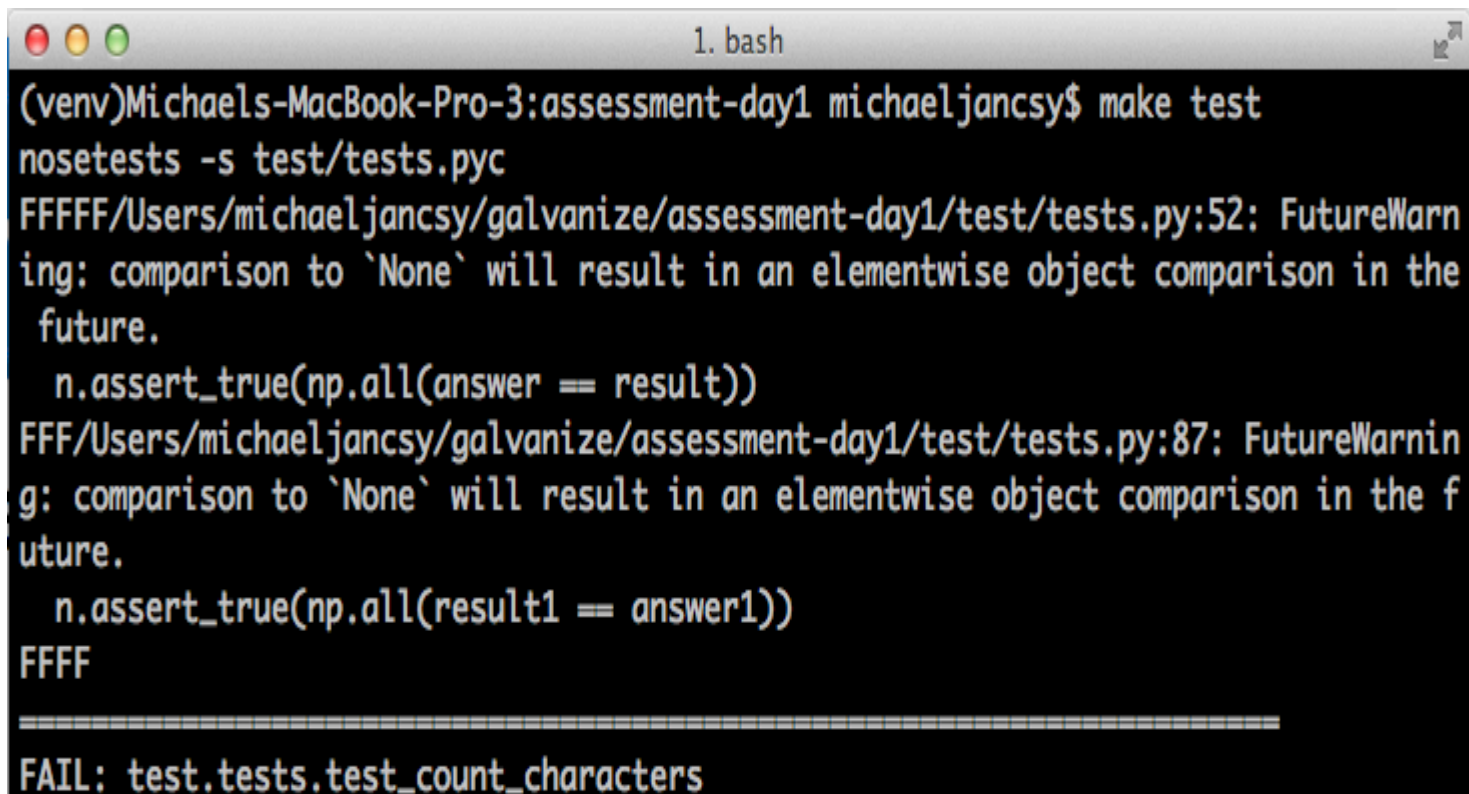


```
1. bash
(venv)Michaels-MacBook-Pro-3:galvanize michaeljancsy$ git clone https://github.com/michaeljancsy/assessment-day1.git
Cloning into 'assessment-day1'...
Username:
Password:
remote: Counting objects: 118, done.
remote: Compressing objects: 100% (6/6), done.
remote: Total 118 (delta 0), reused 0 (delta 0), pack-reused 112
Receiving objects: 100% (118/118), 753.91 KiB | 431 KiB/s, done.
Resolving deltas: 100% (45/45), done.
(venv)Michaels-MacBook-Pro-3:galvanize michaeljancsy$
```

# Run Tests in Assessment Directory

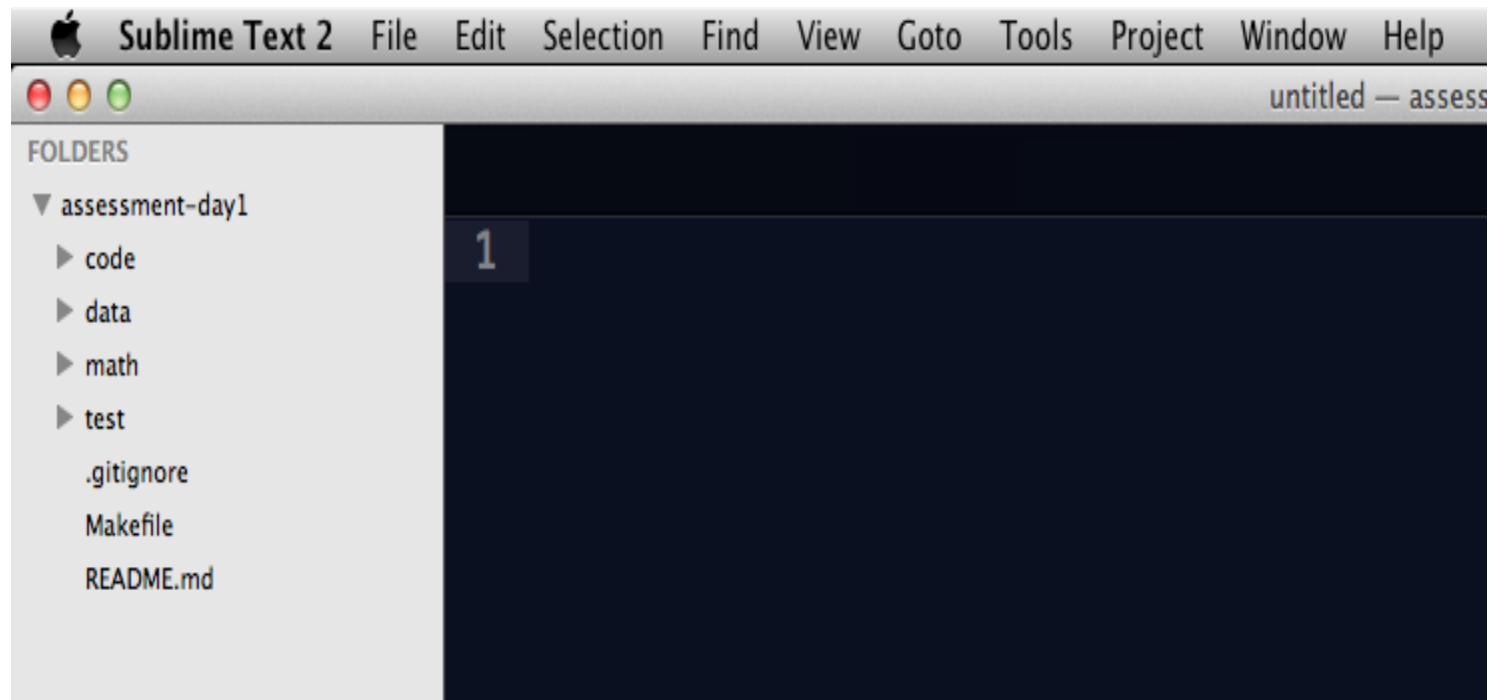
Run: `make test`

If the tests don't run, flag down an instructor or DSR.

A terminal window titled "1. bash" showing the execution of a test suite. The user runs the command `make test` in a directory named `assessment-day1`. The output shows several test failures indicated by 'F' characters, followed by a summary line indicating a failure in the `test_count_characters` test.

```
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$ make test
nosetests -s test/tests.pyc
FFFFF/Users/michaeljancsy/galvanize/assessment-day1/test/tests.py:52: FutureWarn
ing: comparison to `None` will result in an elementwise object comparison in the
future.
    n.assert_true(np.all(answer == result))
FFF/Users/michaeljancsy/galvanize/assessment-day1/test/tests.py:87: FutureWarnin
g: comparison to `None` will result in an elementwise object comparison in the f
uture.
    n.assert_true(np.all(result1 == answer1))
FFFF
=====
FAIL: test.tests.test_count_characters
```

# Open Assessment Folder in Sublime



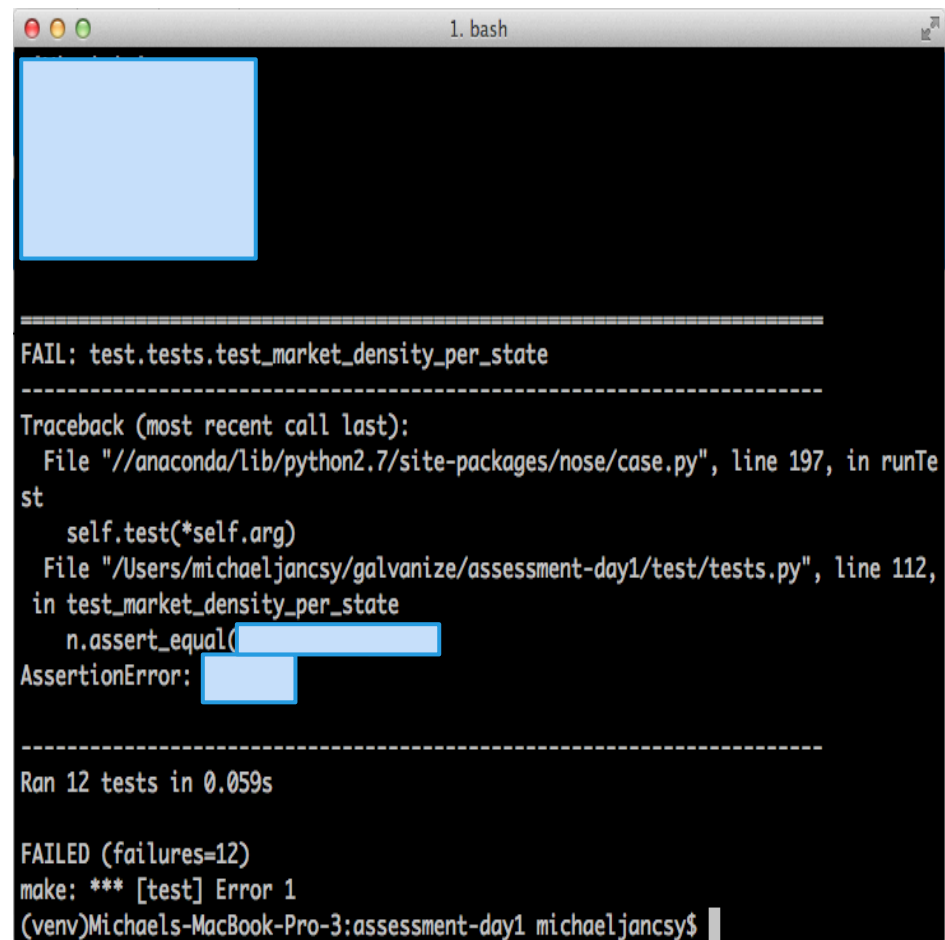
# Fill in Your Answers in Sublime

assessment.py and math.txt



# Test Your Code

make test



A terminal window titled "1. bash" showing the output of a test run. The window has a dark background with light-colored text. A light blue rectangular box is positioned in the top-left corner of the terminal area. The output shows a failure in the test suite, with a traceback indicating an assertion error in the `test_market_density_per_state` function. The error message is partially obscured by a light blue box. The terminal output concludes with a summary of 12 failed tests and a prompt for the user.

```
1. bash

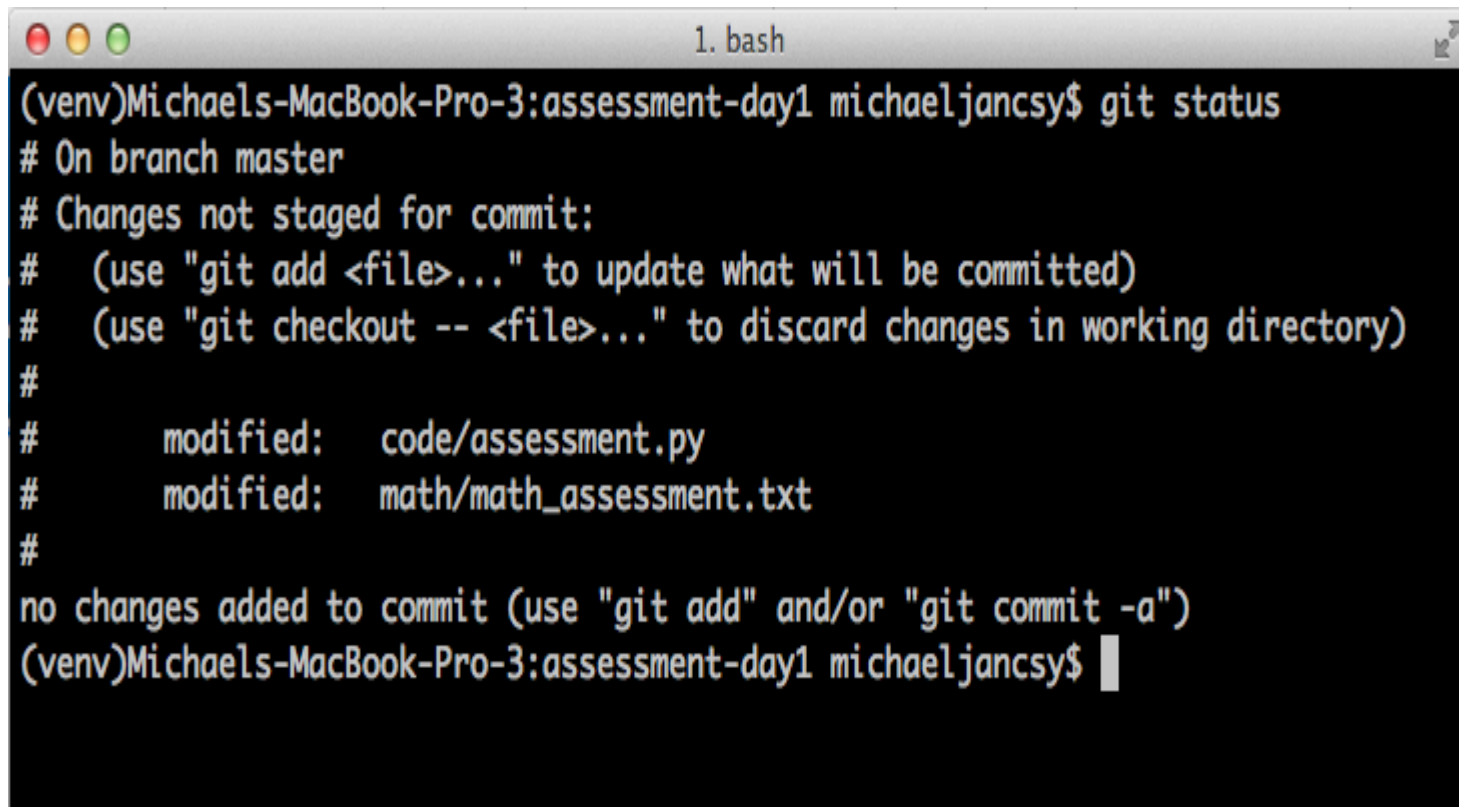
=====
FAIL: test.tests.test_market_density_per_state
-----
Traceback (most recent call last):
  File "//anaconda/lib/python2.7/site-packages/nose/case.py", line 197, in runTest
    self.test(*self.args)
  File "/Users/michaeljancsy/galvanize/assessment-day1/test/tests.py", line 112,
in test_market_density_per_state
    n.assert_equal(
AssertionError: 
-----

Ran 12 tests in 0.059s

FAILED (failures=12)
make: *** [test] Error 1
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$
```

# Check that your files have changed

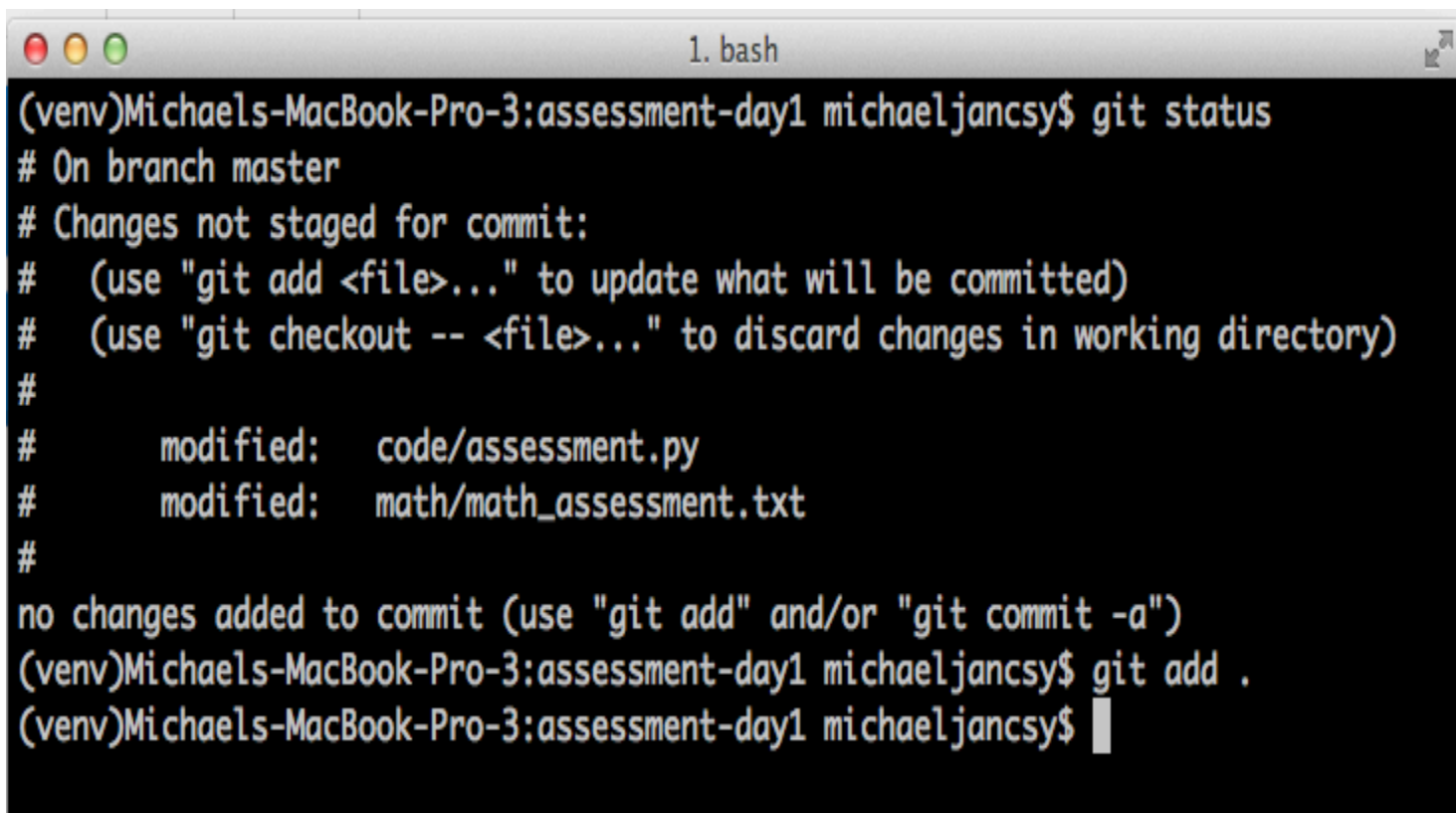
`git status`

A screenshot of a macOS terminal window titled "1. bash". The window shows the output of the command "git status" in a virtual environment. The output indicates that the user is on the master branch and that two files, "code/assessment.py" and "math/math\_assessment.txt", have been modified but are not yet staged for commit. It also provides instructions on how to stage changes using "git add" and how to discard changes using "git checkout --".

```
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$ git status
# On branch master
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be committed)
#   (use "git checkout -- <file>..." to discard changes in working directory)
#
#       modified:   code/assessment.py
#       modified:   math/math_assessment.txt
#
no changes added to commit (use "git add" and/or "git commit -a")
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$
```

# Add Your Changes

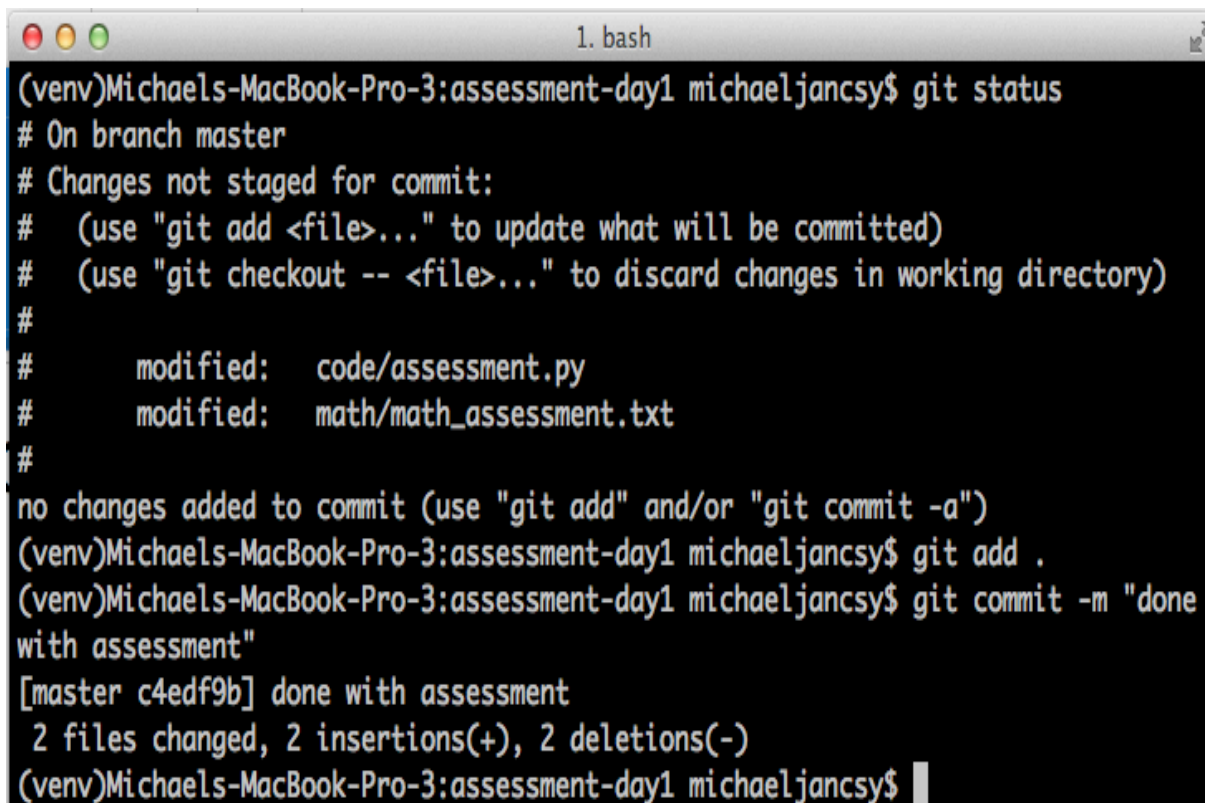
```
git add .
```

A screenshot of a macOS terminal window titled "1. bash". The window shows the output of the "git status" command, which indicates that two files, "code/assessment.py" and "math/math\_assessment.txt", have been modified but are not yet staged for commit. The prompt then shows the user running "git add ." to stage these changes. The terminal text is as follows:

```
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$ git status
# On branch master
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be committed)
#   (use "git checkout -- <file>..." to discard changes in working directory)
#
#       modified:   code/assessment.py
#       modified:   math/math_assessment.txt
#
no changes added to commit (use "git add" and/or "git commit -a")
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$ git add .
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$
```

# Commit Your Changes

```
git commit -m "done with assessment"
```



```
1. bash
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$ git status
# On branch master
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be committed)
#   (use "git checkout -- <file>..." to discard changes in working directory)
#
#       modified:   code/assessment.py
#       modified:   math/math_assessment.txt
#
no changes added to commit (use "git add" and/or "git commit -a")
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$ git add .
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$ git commit -m "done
with assessment"
[master c4edf9b] done with assessment
 2 files changed, 2 insertions(+), 2 deletions(-)
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$
```

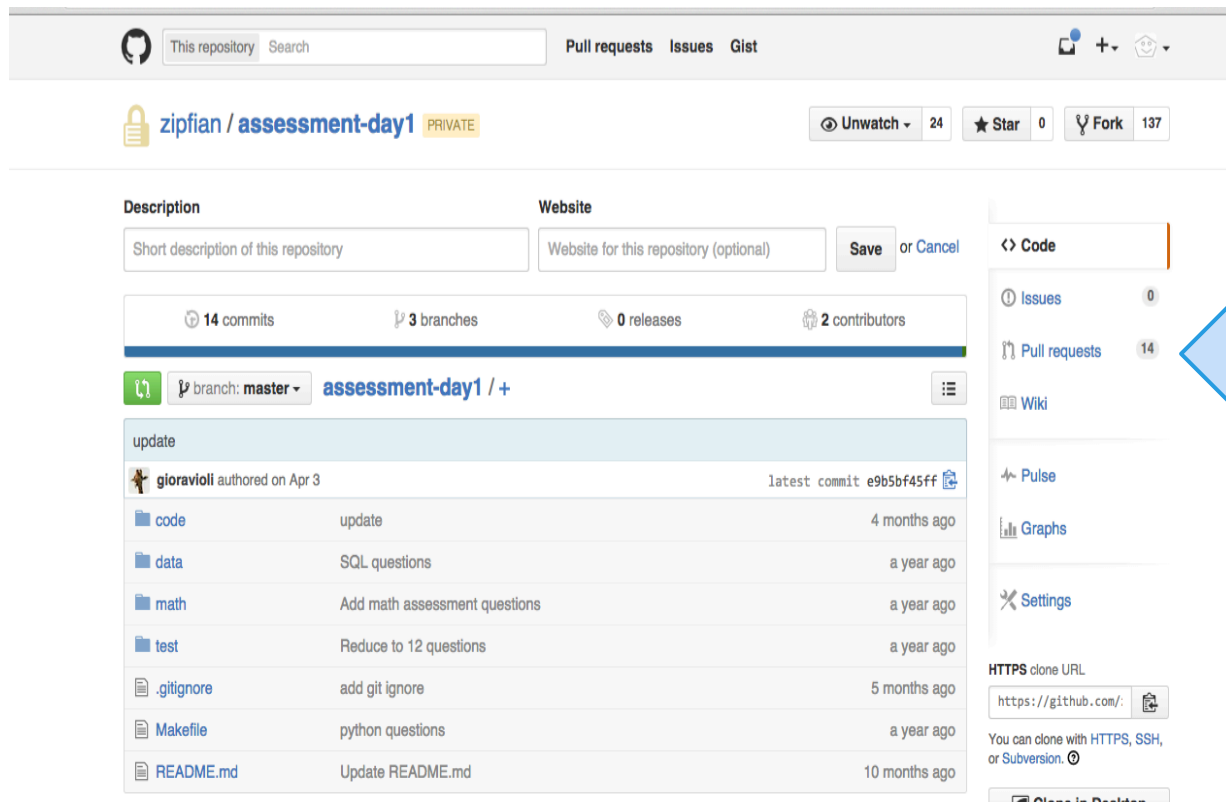
# Push Your Changes to Your Account

`git push`

```
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$ git push
Username:
Password:
Counting objects: 11, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 541 bytes, done.
Total 6 (delta 4), reused 0 (delta 0)
To https://github.com/michaeljancsy/assessment-day1.git
   3b70bf6..c4edf9b  master -> master
(venv)Michaels-MacBook-Pro-3:assessment-day1 michaeljancsy$
```

# Create a Pull Request

- Pull requests are how assessments and assignments are submitted
- To begin, go to [github.com/\(your username\)/assessment-day1](https://github.com/(your username)/assessment-day1)
- Click on “Pull requests”



The screenshot shows the GitHub interface for the repository 'zipfian / assessment-day1'. The 'Pull requests' tab is selected in the right-hand sidebar, indicated by a blue arrow. The main content area shows the repository's description, website, and a list of files and their commit history. The sidebar also includes links to 'Code', 'Issues', 'Wiki', 'Pulse', 'Graphs', and 'Settings'.

Repository: zipfian / assessment-day1 PRIVATE

Unwatch 24 Star 0 Fork 137

Description: Short description of this repository

Website: Website for this repository (optional)

Save or Cancel

14 commits 3 branches 0 releases 2 contributors

branch: master assessment-day1 / +

File	Commit Message	Time Ago
code	update	4 months ago
data	SQL questions	a year ago
math	Add math assessment questions	a year ago
test	Reduce to 12 questions	a year ago
.gitignore	add git ignore	5 months ago
Makefile	python questions	a year ago
README.md	Update README.md	10 months ago

HTTPS clone URL: <https://github.com/>

You can clone with HTTPS, SSH, or Subversion.

Clone in Desktop

# Create a Pull Request

The screenshot shows the GitHub web interface for the repository `michaeljancsy / assessment-day1`. The page is titled "Create a Pull Request" in a large blue banner at the top. Below the banner, the browser address bar shows the URL `https://github.com/michaeljancsy/assessment-day1/pulls`. The repository name `michaeljancsy / assessment-day1` is displayed, along with a "PRIVATE" label. To the right of the repository name, there are buttons for "Unwatch" (14), "Star" (0), and "Fork" (137). Below the repository name, there are tabs for "Pull requests", "Labels", and "Milestones". A search bar with the text "is:pr is:open" is visible. A green button labeled "New pull request" is highlighted with a large blue arrow pointing to it from the right. Below the button, there is a large gray box with a pull request icon and the text "Welcome to Pull Requests!". The text explains that pull requests help collaborate on code and that they will appear in a searchable and filterable list. It also includes a link to "create a pull request".

GitHub, Inc. [US] `https://github.com/michaeljancsy/assessment-day1/pulls`

This repository Search Pull requests Issues Gist

michaeljancsy / `assessment-day1` PRIVATE

forked from zipfian/assessment-day1

Unwatch 14 Star 0 Fork 137

Pull requests Labels Milestones

Filters is:pr is:open

New pull request

Welcome to Pull Requests!

Pull requests help you collaborate on code with other people. As pull requests are created, they'll appear here in a searchable and filterable list. To get started, you should [create a pull request](#).

# Create a Pull Request

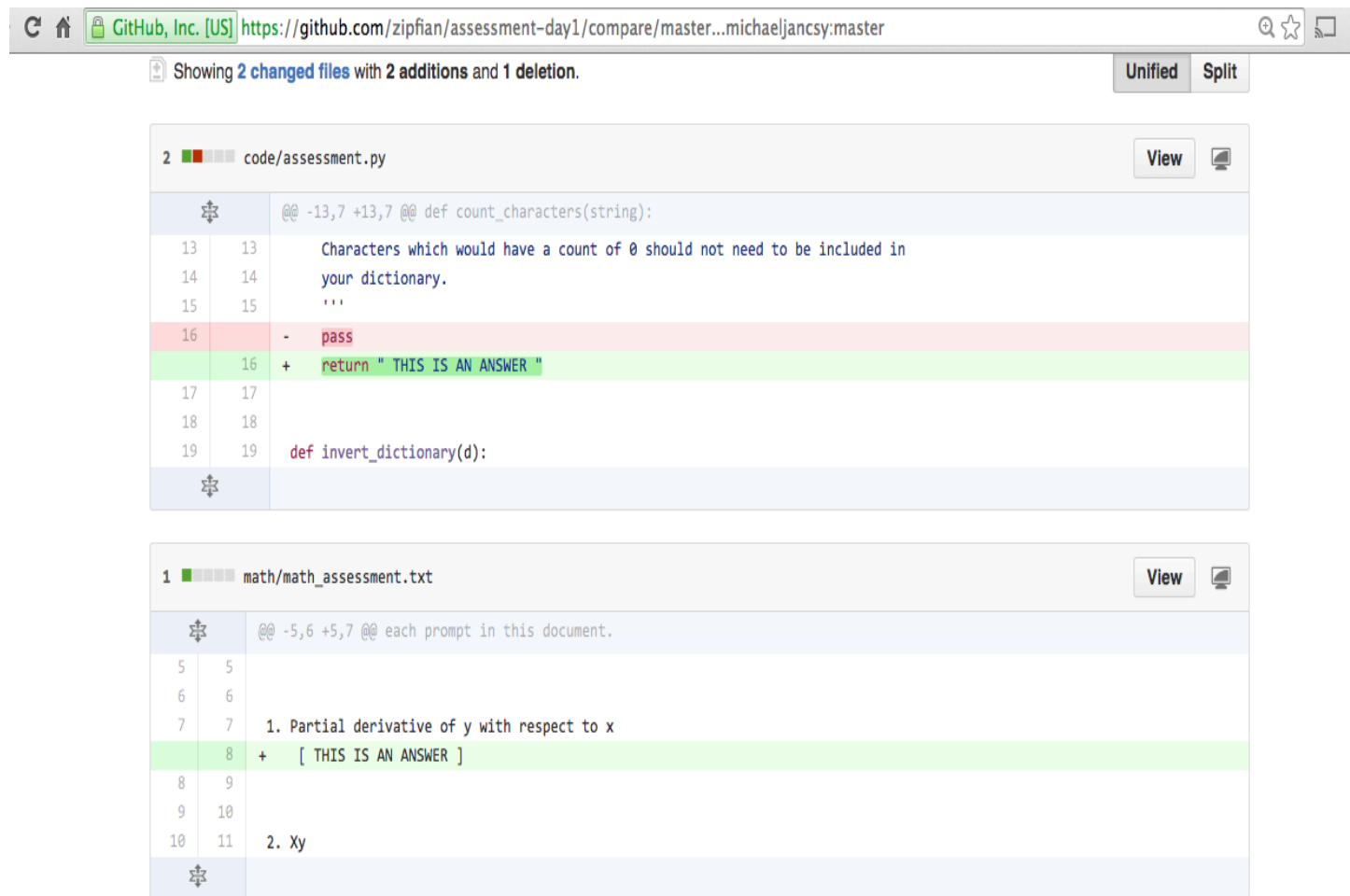
Select your fork as the “head fork”

The screenshot shows a GitHub web interface for a pull request comparison. The browser address bar displays the URL: `https://github.com/zipfian/assessment-day1/compare/master...michaeljancsy:master`. The repository name is `zipfian / assessment-day1` (PRIVATE). It shows 24 Unwatch, 0 Stars, and 137 Forks. The main heading is "Comparing changes" with a subtext: "Choose two branches to see what's changed or to start a new pull request. If you need to, you can also [compare across forks](#)." Below this, the comparison is set up with "base fork: zipfian/assessment-day1", "base: master", "head fork: michaeljancsy/assessment...", and "compare: master". A green checkmark indicates "Able to merge. These branches can be automatically merged." A blue arrow points from the "head fork" dropdown to the "View pull request" button. Below the merge status, there is a section for "done with assessment #130" with "No description available" and a "View pull request" button. A yellow banner contains a "Create new pull request" button and the text "Create another pull request to discuss and review the changes again." At the bottom, statistics show "2 commits", "2 files changed", "0 commit comments", and "1 contributor". A list of commits on Jul 17, 2015, by michaeljancsy is shown, both titled "done with assessment" with commit hashes 3b70bf6 and c4edf9b.



# Create a Pull Request

Scroll down to see the changed files



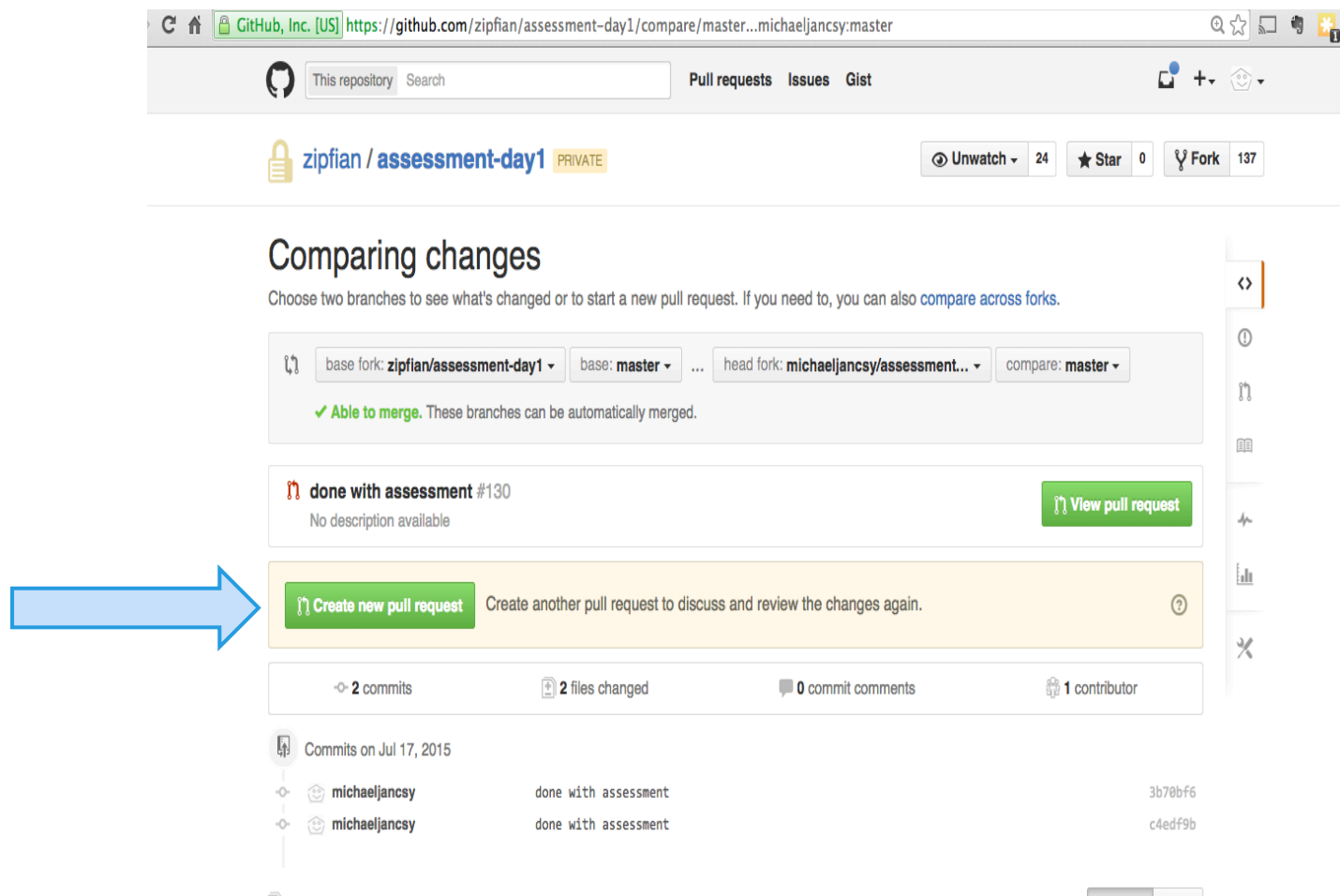
The screenshot shows a web browser window displaying a GitHub pull request comparison. The address bar shows the URL: <https://github.com/zipfian/assessment-day1/compare/master...michaeljancsy:master>. Below the address bar, it says "Showing 2 changed files with 2 additions and 1 deletion." and has buttons for "Unified" and "Split" views.

The first file, `code/assessment.py`, is shown with a diff view. It has a "View" button and a diff icon. The diff shows changes to the `count_characters` function. Line 16 has a deletion of `pass` (highlighted in red) and a new line 16 has an addition of `return " THIS IS AN ANSWER "` (highlighted in green). The diff also shows lines 13-15 and 17-19.

The second file, `math/math_assessment.txt`, is shown with a diff view. It has a "View" button and a diff icon. The diff shows changes to the document. Line 8 has an addition of `[ THIS IS AN ANSWER ]` (highlighted in green). The diff also shows lines 5-7 and 9-11.

# Create a Pull Request

Click “Create a new pull request”



The screenshot shows a GitHub web interface for a repository named 'zipfian / assessment-day1'. The page is titled 'Comparing changes' and shows a comparison between 'base fork: zipfian/assessment-day1' and 'head fork: michaeljancsy/assessment...'. A green checkmark indicates 'Able to merge'. Below this, there is a section for a pull request titled 'done with assessment #130'. A large blue arrow points to a green button labeled 'Create new pull request' in a yellow box. To the right of the button is the text 'Create another pull request to discuss and review the changes again.' Below the button, statistics show '2 commits', '2 files changed', '0 commit comments', and '1 contributor'. At the bottom, a list of commits by 'michaeljancsy' is visible, both titled 'done with assessment'.

base fork: zipfian/assessment-day1 base: master ... head fork: michaeljancsy/assessment... compare: master

✓ Able to merge. These branches can be automatically merged.

done with assessment #130  
No description available

View pull request

Create new pull request Create another pull request to discuss and review the changes again.

2 commits 2 files changed 0 commit comments 1 contributor

Commits on Jul 17, 2015

- michaeljancsy done with assessment 3b70bf6
- michaeljancsy done with assessment c4edf9b

# Create a Pull Request

Type your full name as the title

zipfian / **assessment-day1** PRIVATE

Unwatch 24

Star 0

Fork 137

## Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#).

base fork: **zipfian/assessment-day1** base: **master** ... head fork: **michaeljancsy/assessment...** compare: **master**

✓ **Able to merge.** These branches can be automatically merged.

done with assessment #130

No description available

View pull request



Title



Write

Preview

Markdown supported Edit in fullscreen

Leave a comment

Labels

None yet

Milestone

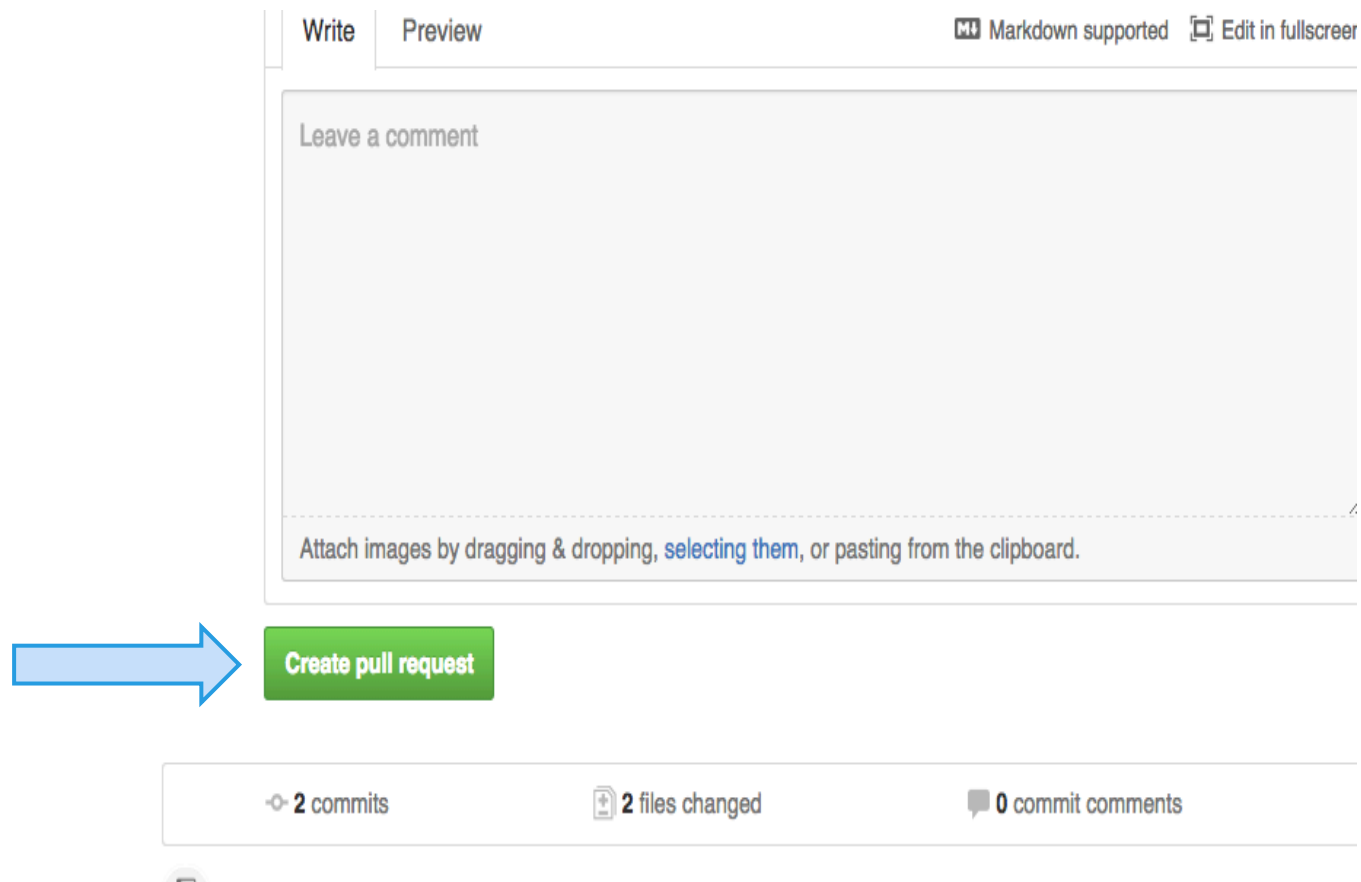
No milestone

Assignee

No one—assign yourself

# Create a Pull Request

Click “Create pull request”



The screenshot shows the GitHub interface for creating a pull request. At the top, there are tabs for 'Write' and 'Preview', and links for 'Markdown supported' and 'Edit in fullscreen'. Below these is a large text area with the placeholder 'Leave a comment'. At the bottom of the text area, a dashed line separates it from a footer that says 'Attach images by dragging & dropping, selecting them, or pasting from the clipboard.' Below the text area is a green button labeled 'Create pull request'. A blue arrow points to this button. At the bottom of the form, there is a summary bar showing '2 commits', '2 files changed', and '0 commit comments'.

Write Preview

Markdown supported Edit in fullscreen

Leave a comment

Attach images by dragging & dropping, selecting them, or pasting from the clipboard.

Create pull request

2 commits 2 files changed 0 commit comments