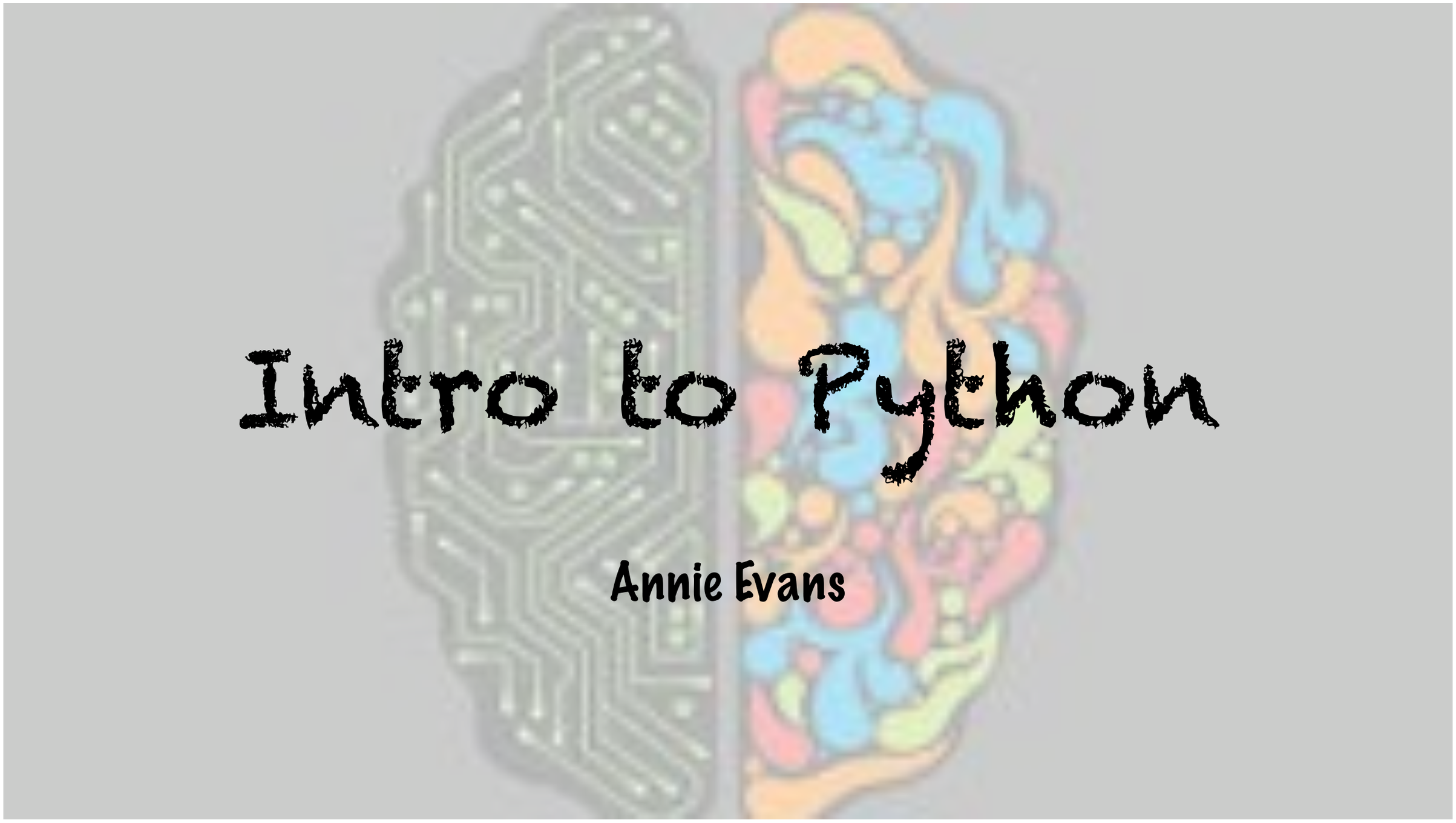


Intro to Python

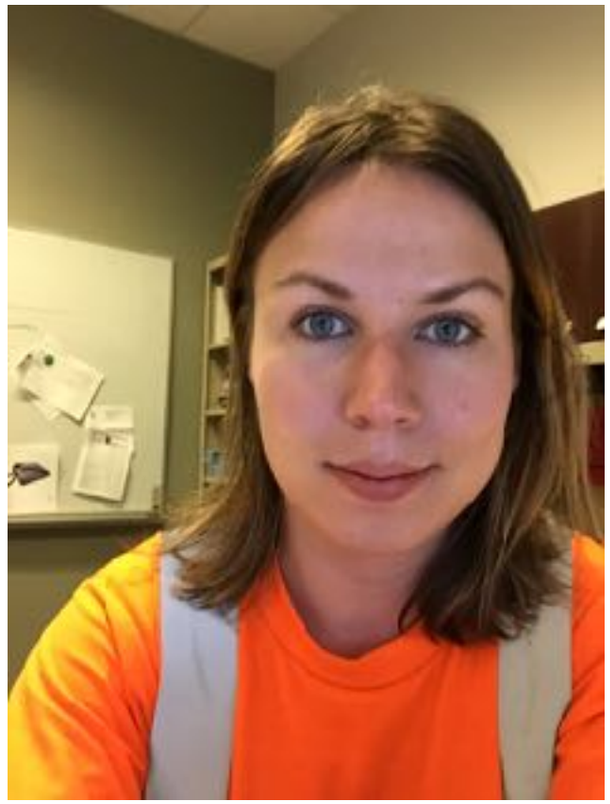
Annie Evans

- Introductions - Name, Background, favorite animal and why you want to learn python.

SKILLS you will learn today!

- Wi-fi, Terminal
- Python in Terminal and Variables
- Terminal - Unix Commands
- Git and Git hub
- Installing Github, Atom, Anaconda

Civil Engineer



var·i·a·ble

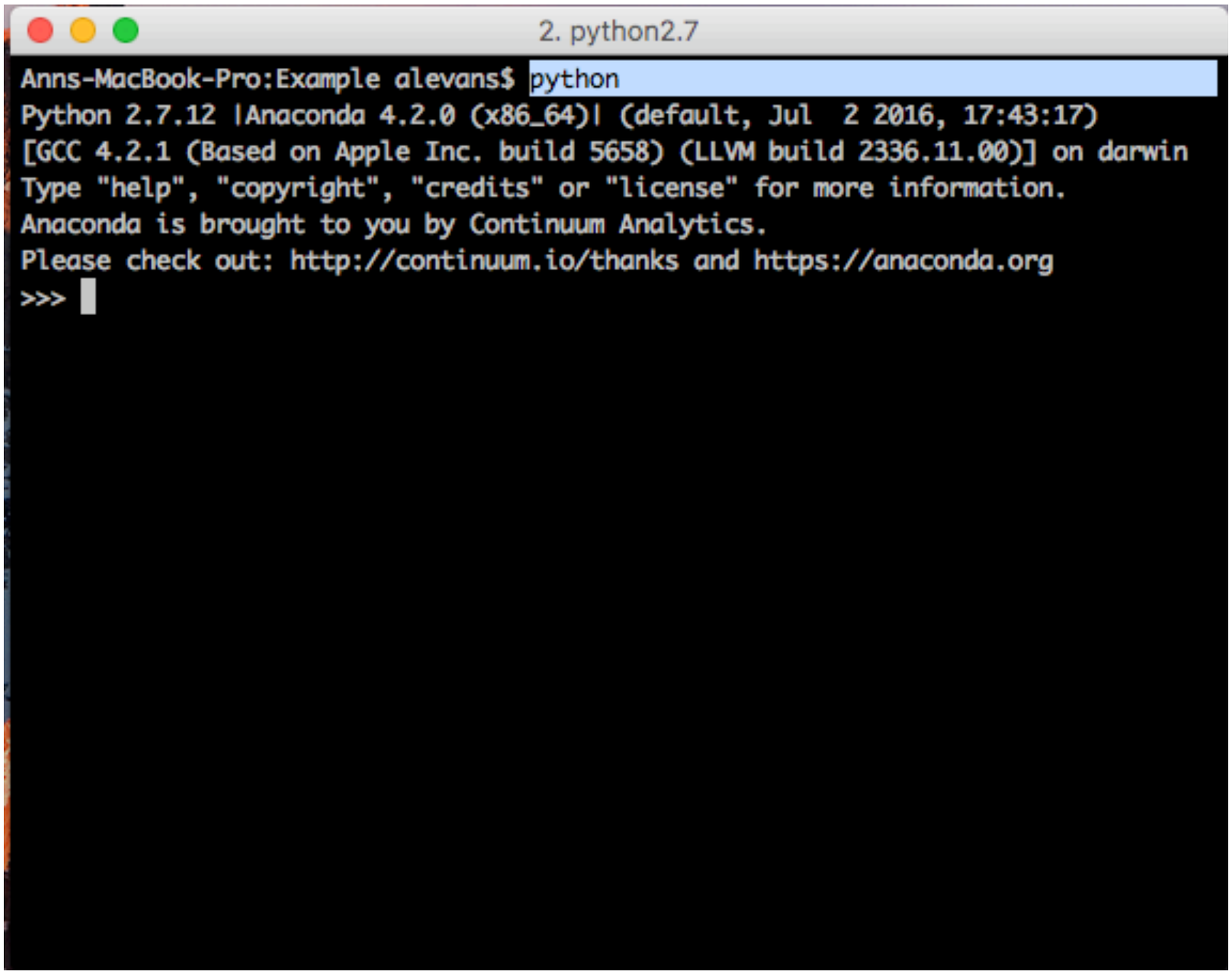
/ˈverēəb(ə)l/

noun
noun: **variable**; plural noun: **variables**

1. an element, feature, or factor that is liable to vary or change.
   "there are too many variables involved to make any meaningful predictions"
   synonyms: factor, element, ingredient, quantity, unknown quantity, condition
   "there are other variables to consider"

- MATHEMATICS
  a quantity that during a calculation is assumed to vary or be capable of varying in value.
- COMPUTING
  a data item that may take on more than one value during the runtime of a program.

Python in Terminal



area_square = height x width

width = 6

height = 2.5

name_square = “Annie’s Green Square”

color_square = “Green”

area_square = ?

2. python2.7

```
>>> height = 2.5
>>> width = 6
>>> print height, width
2.5 6
>>> print height, " " , width
2.5   6
>>> name_square = "Annie's Green Square"
>>> color_square = "Green"
>>> area_square = height x width
  File "<stdin>", line 1
    area_square = height x width
                           ^
SyntaxError: invalid syntax
>>> area_square = height * width
>>> print area_square
15.0
>>> height = 3
>>> area_square
15.0
>>> area_square = height * width
>>> area_square
18
>>>
```

perimeter_square = 2*height + 2*width

width = 6

height = 3

name_square = “Annie’s Green Square”

color_square = “Green”

perimeter_square = ?

Students Example

```
>>> student_1 = "Sarah"
>>> student_2 = "Mary"
>>> student_3 = "Fred"
>>> student_4 = "Tom"
>>> my_class= student_1 + student_2 + student_3 + student_4
>>> my_class
'SarahMaryFredTom'
>>> my_class = student_1 + " " + student_2 + " " + student_3 + " " + student_4
>>> my_class
'Sarah Mary Fred Tom'
>>> print student_1, student_2, student_3, student_4
Sarah Mary Fred Tom
>>>
```

Terminal Commands 1/3

pwd :print working directory
cd :change directory
ls :list

absolute pathname :begins with the root directory and follows the filesystem branch by branch to the current working directory. *Always begins with a forward slash.
relative pathname :begins with current work directory and follows the filesystem tree branch by branch from the current working directory.

cd ~ :change to home directory
cd :change to home directory
cd .. :change to directory above the current directory

Terminal Commands 2/3

touch new_file.txt	creates a new_file.txt in the working directory
touch old_file.txt	changes the timestamp on the existing old file
rm empty_dir	removes the file from current directory.
mkdir new_dir1	creates a new directory in the current directory
mkdir empty_dir	creates new directory in the current directory
rmdir empty_dir	removes the directory from current directory.

Terminal Commands 3/3

cp file1.txt file2.txy Copy file1.txt to a new file called file2.txt

cp file1.txt directory1 Copy file1.txt to directory1, keeping it named as file1.txt within directory1.

cp file1.txt directory1/file11.txt Copy file1.txt to directory1, but name the copy file11.txt.

cp -r dir1 dir2 Copy dir1 and all its contents into dir2.

mv file1.txt file2.txt Move the contents of file1.txt to file2.txt. This effectively just renames file1.txt to file2.txt.

mv dir1 dir2 Renames dir1 to dir2 if dir2 doesn't exit, and otherwise moves dir1 into dir2.

Control-Key

^u # Erases input from current location to beginning of line.

^k # Erases input from the current location to the end of the line.

^a # Jump to beginning of line.

^e # Jump to end of line.

^z # Suspend a program that may be running and gives you another shell prompt.

^c # Kill a program that may be running.

^l # Clear the entire screen (works like typing 'clear').

GIT: is a version control system (VCS) for tracking changes in computer files and coordinating work on those files among multiple people.

The name "git" was given by **Linus Torvalds** when he wrote the very first version. He described the tool as "the stupid content tracker" and the name as (depending on your way):

- random three-letter combination that is pronounceable, and not actually used by any common UNIX command. The fact that it is a mispronunciation of "get" may or may not be relevant.
- stupid. contemptible and despicable. simple. Take your pick from the dictionary of slang.
- "global information tracker": you're in a good mood, and it actually works for you. Angels sing, and a light suddenly fills the room.
- "g*dd*mn idiotic truckload of sh*t": when it breaks

GIT Basic Commands

```
>>git init my_new_repo   # Initialize a new git repository called my_new_repo.
>>git init               # Initialize the current directory to be a git repository.

>>git status             # Check Status
>> mkdir my_folder       #Make a new folder or directory
>> cd my_folder          #Change directory to my_folder

>> cat > my_file.txt             #Create a new text file
Type the following:      #Write in the newly created text file
This is a sample txt file.
control + D              #To exit

>>git status             # Check Status
>>git add my_file.txt    # Add the file my_file.txt to the staging area.
>>git add my_folder/           # Add the folder my_folder (and all its contents) to the
                         # staging area.

>>git status             #Check Status
>>git commit -m 'I committed!'     # Commit all files in the index staging area with
                                   # the commit message 'I committed'.
```