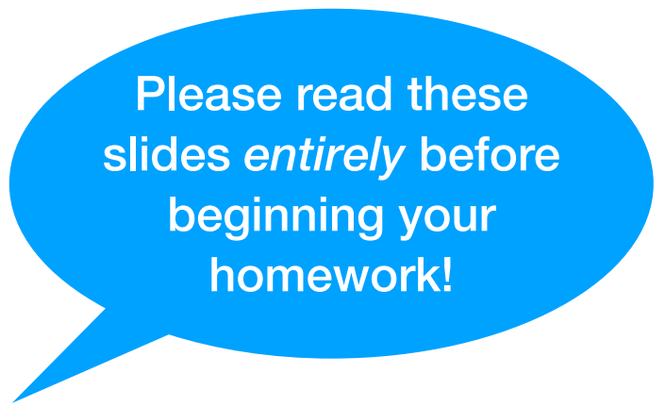
Preparing and submitting assignments

Jim Bagrow

STAT/CS 287 — Data Science 1

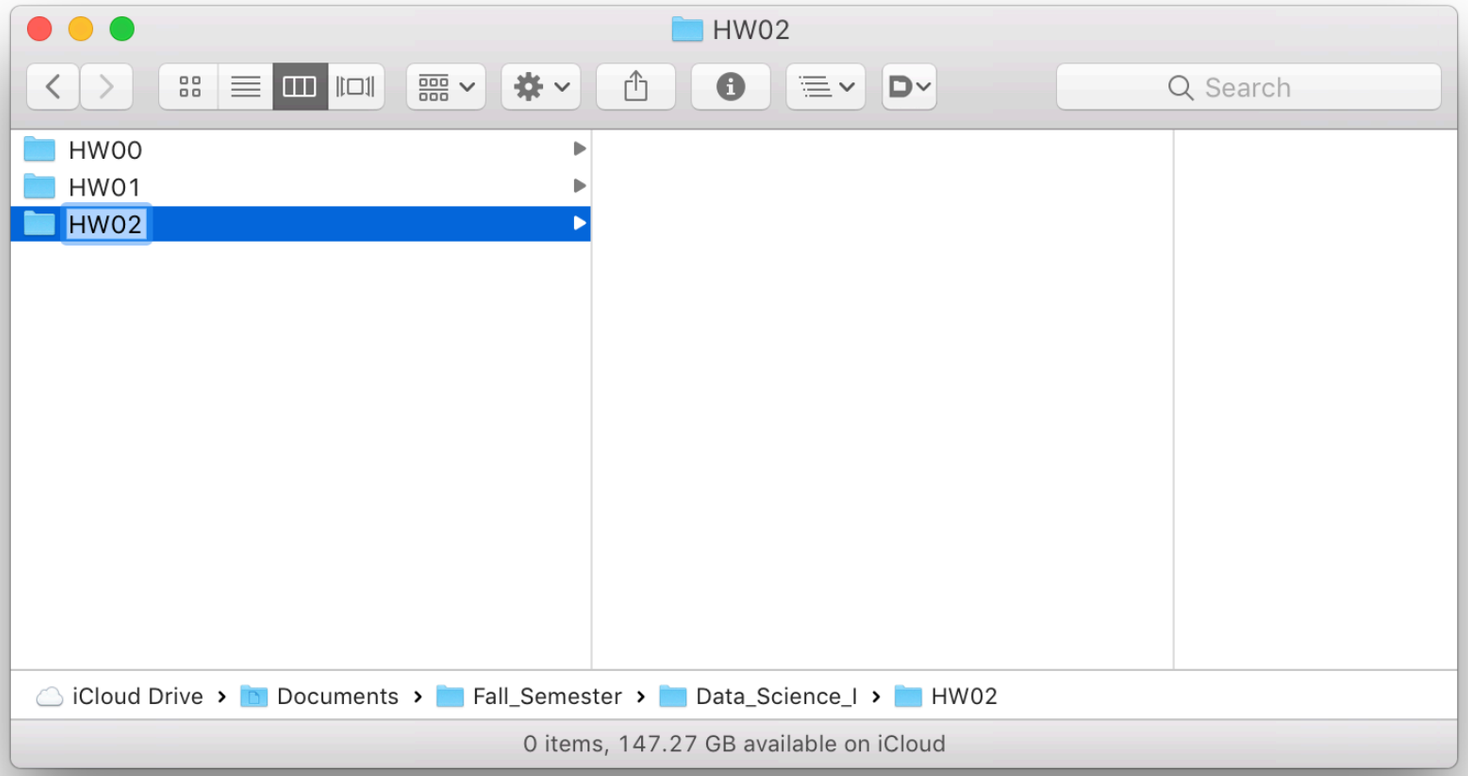


Contents

Preparing an assignment

Preparing an assignment

Create an enclosing folder for the assignment (HW or project)

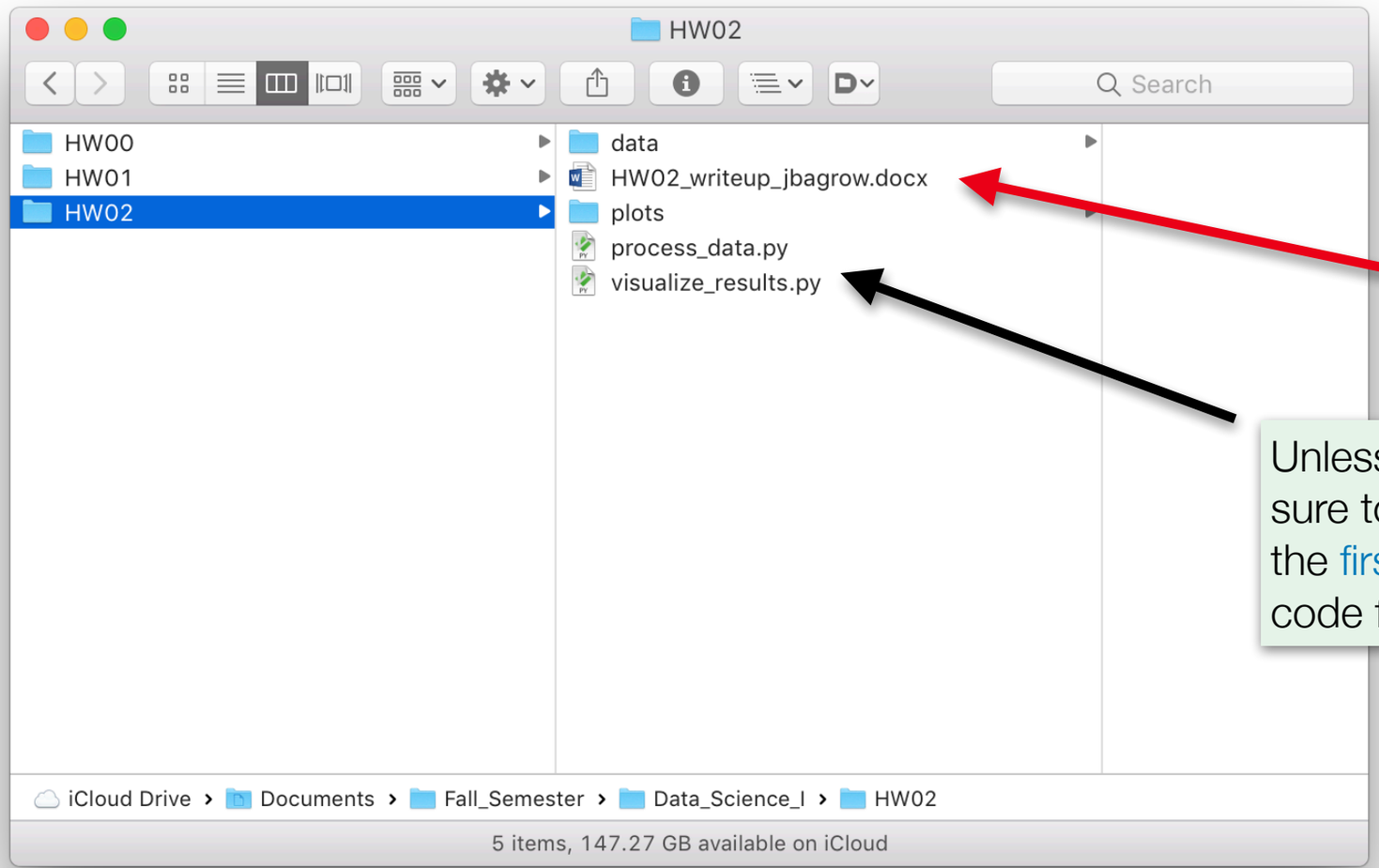


(macOS screenshots for illustration only)

Preparing an assignment

Add files to enclosing folder following assignment directions including write-up!

Submissions without a write-up will not be accepted



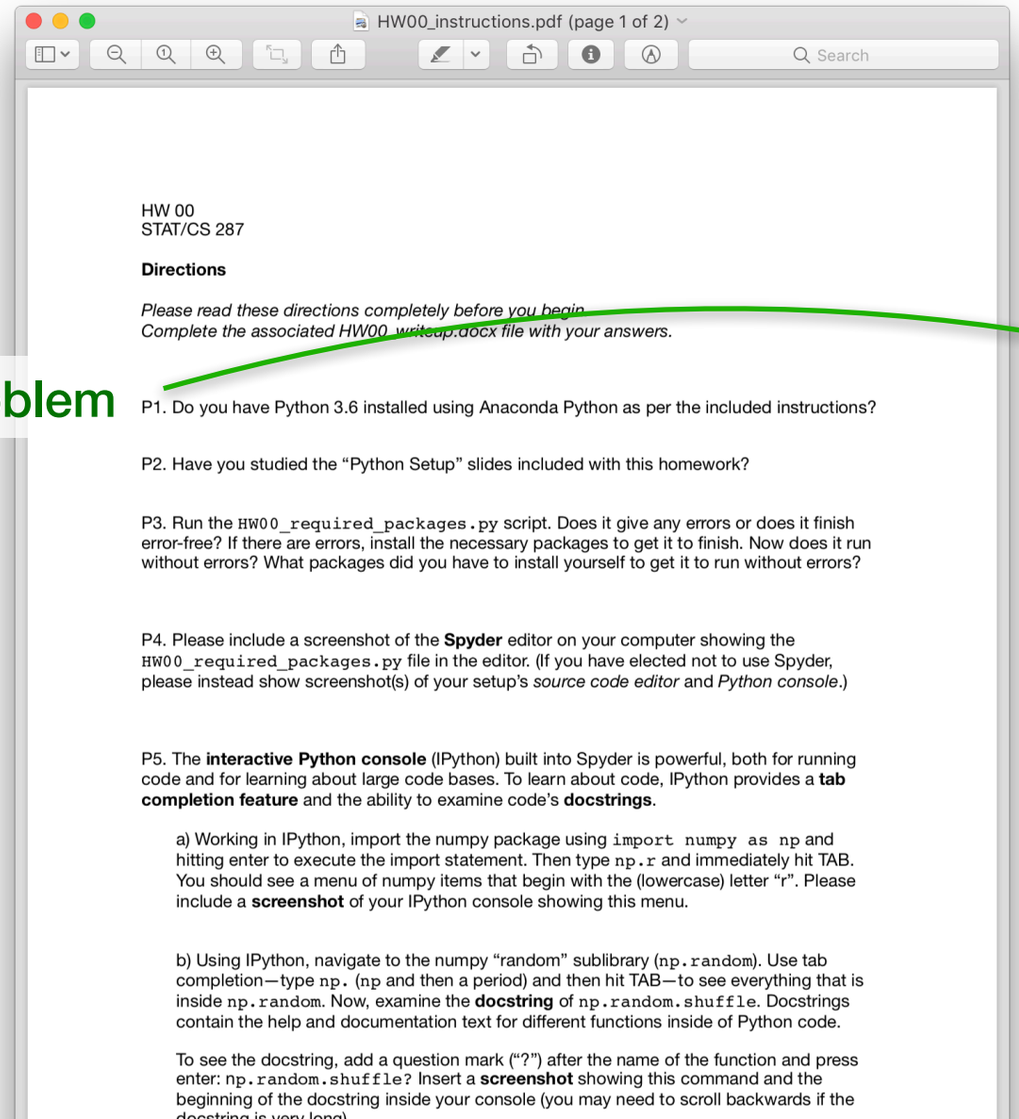
→ Be sure to name files as instructed

Ex: rename `HW02_writeup_NETID.docx` to `HW02_writeup_jbagrow.docx`

Preparing an assignment

Read assignment instructions, perform any requested coding, plotting, etc. and **complete the included assignment write-up**

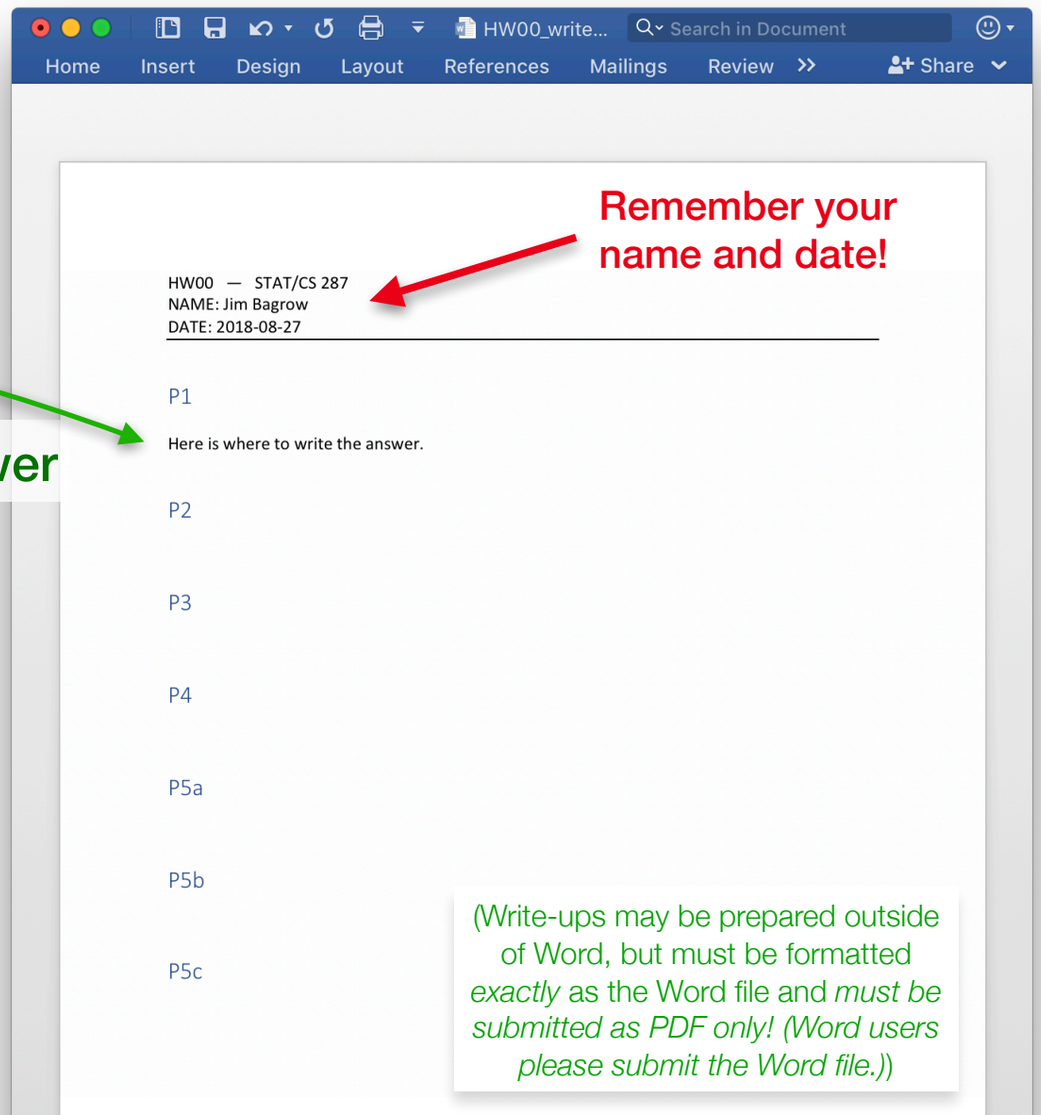
Instructions (and problems)



problem

answer

Write-up (for your answers)

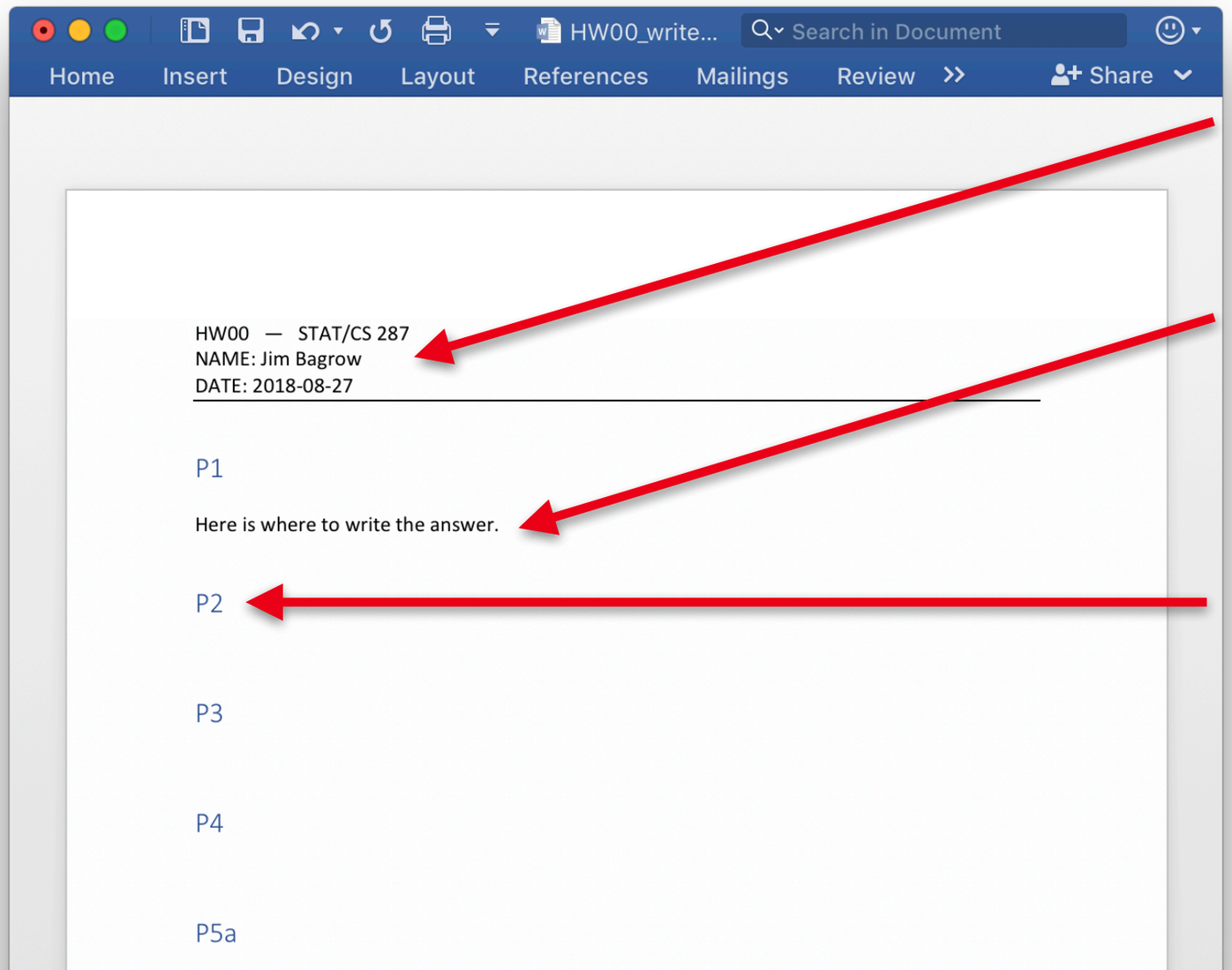


(Write-ups may be prepared outside of Word, but must be formatted *exactly* as the Word file and *must be submitted as PDF only! (Word users please submit the Word file.)*)

Preparing an assignment

Read assignment instructions, perform any requested coding, plotting, etc. and **complete the included assignment write-up**

Write-up



Remember your name and date!

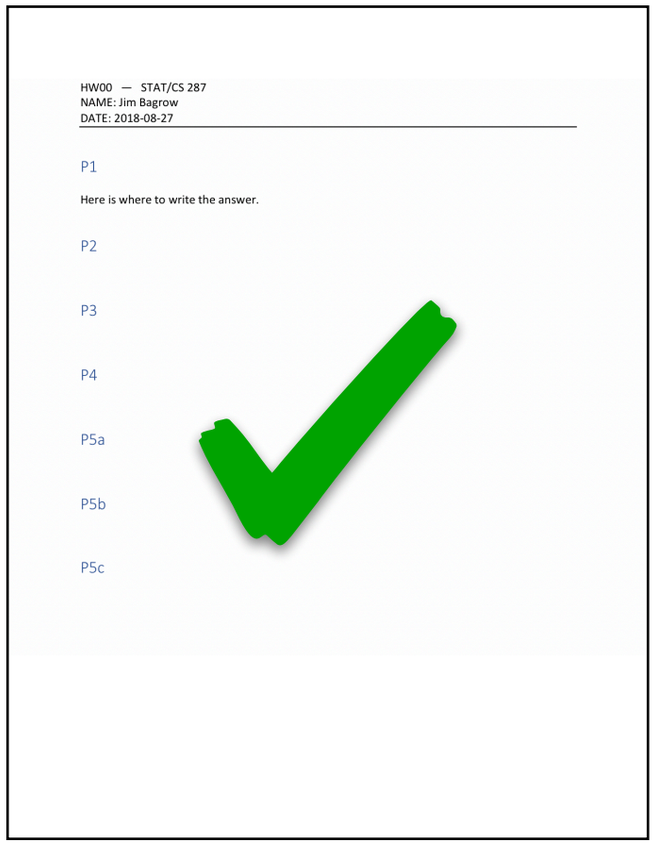
Place written answers, screenshots, plots, etc. after corresponding P*x* problem heading

Please keep these problem headings on their own separate lines in your file

Preparing an assignment

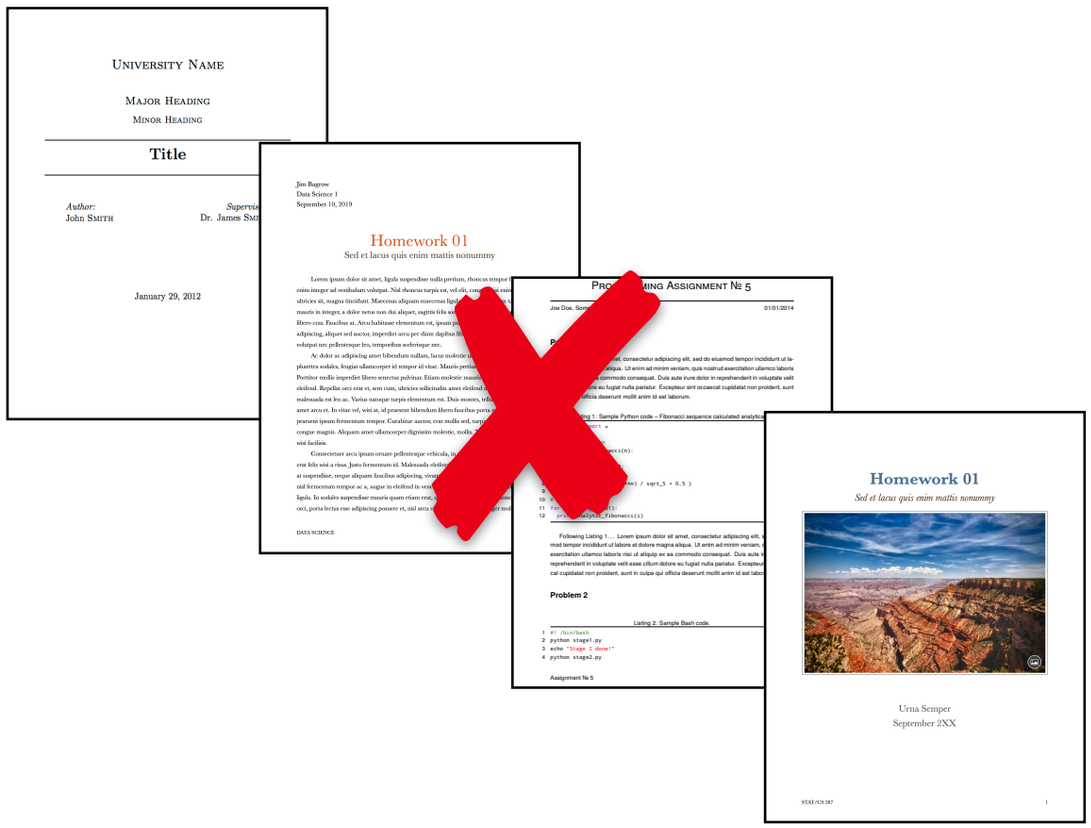
Please follow the write-up format. Do not change fonts, colors, margins, headers, and so forth!

✓ Acceptable



The official write-up template

✗ Unacceptable

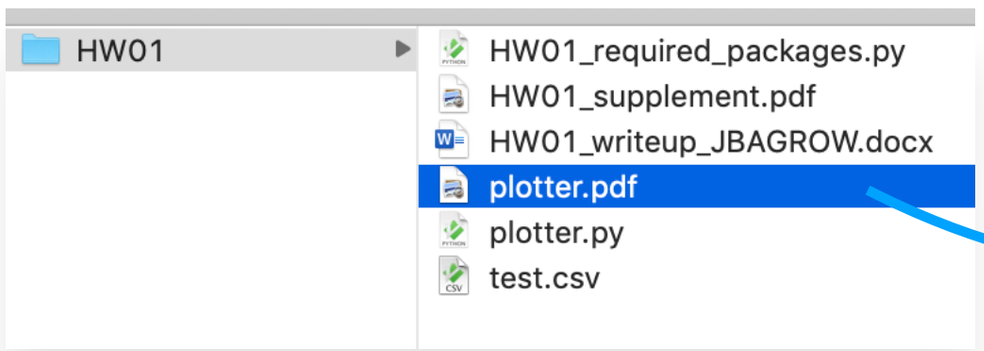


Any other format will be *returned ungraded*

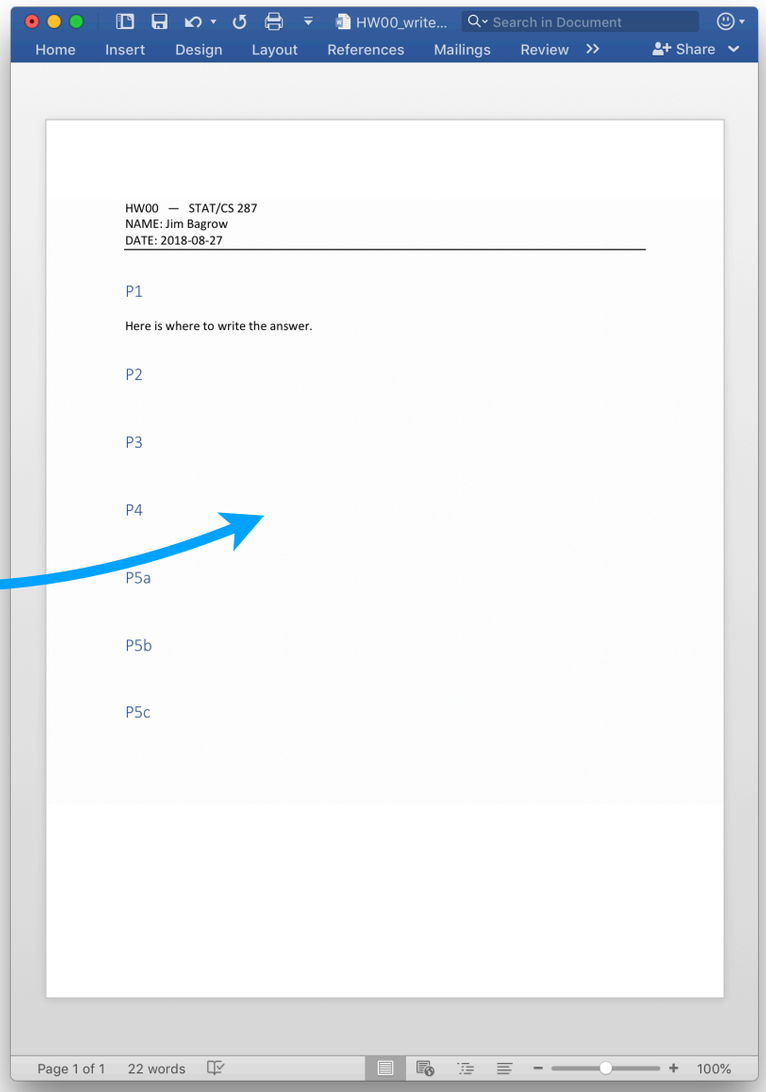
Preparing an assignment

Some problems ask for **graphics**, such as plots or screenshots.

After generating your graphics, you will need to
properly insert them into your write-up



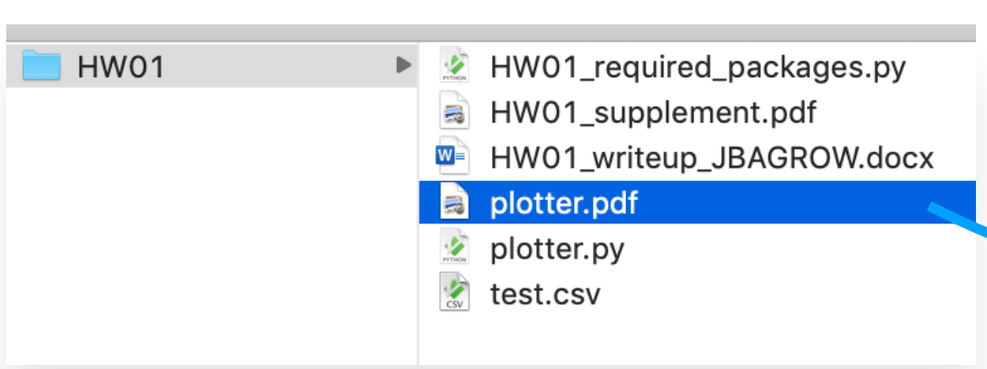
Write-up

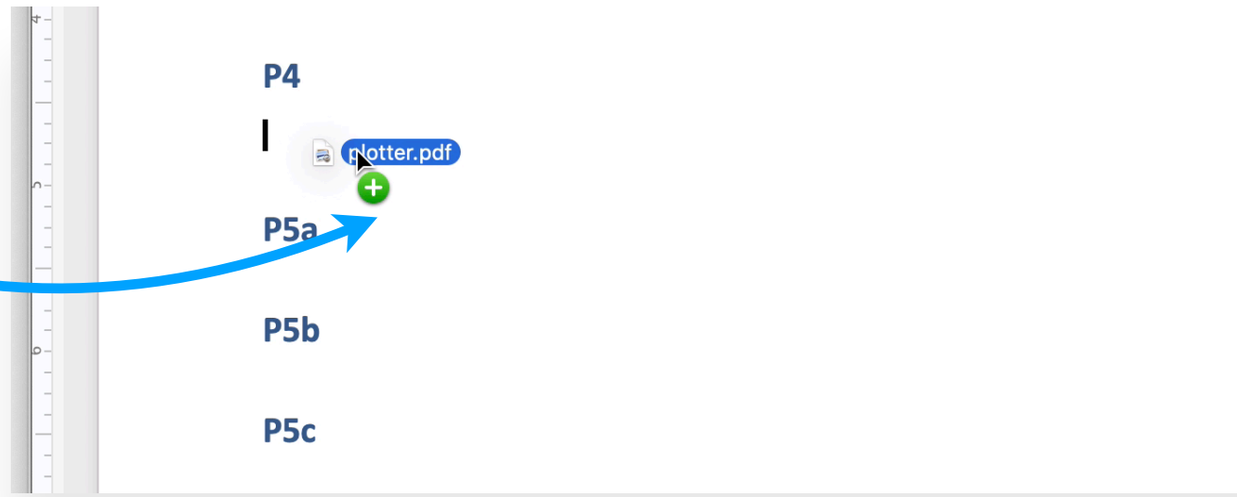


(See "Code specifics" later in this document for details on Python plots)

Preparing an assignment

To insert graphics into your write-up



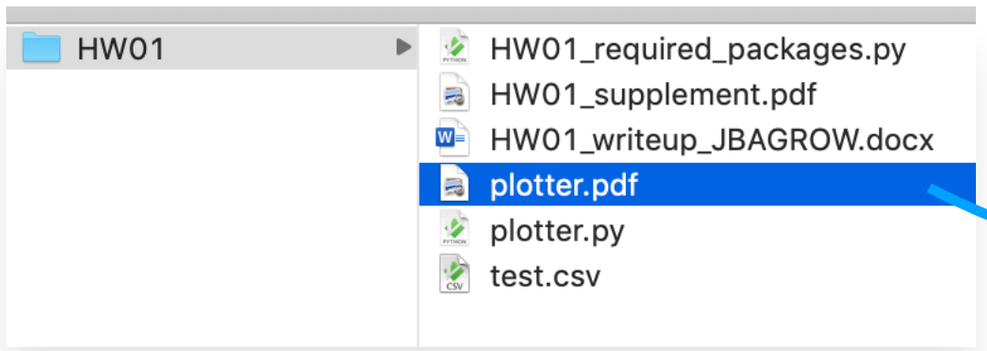


1. Insert figure by **drag**-and-drop or menu command

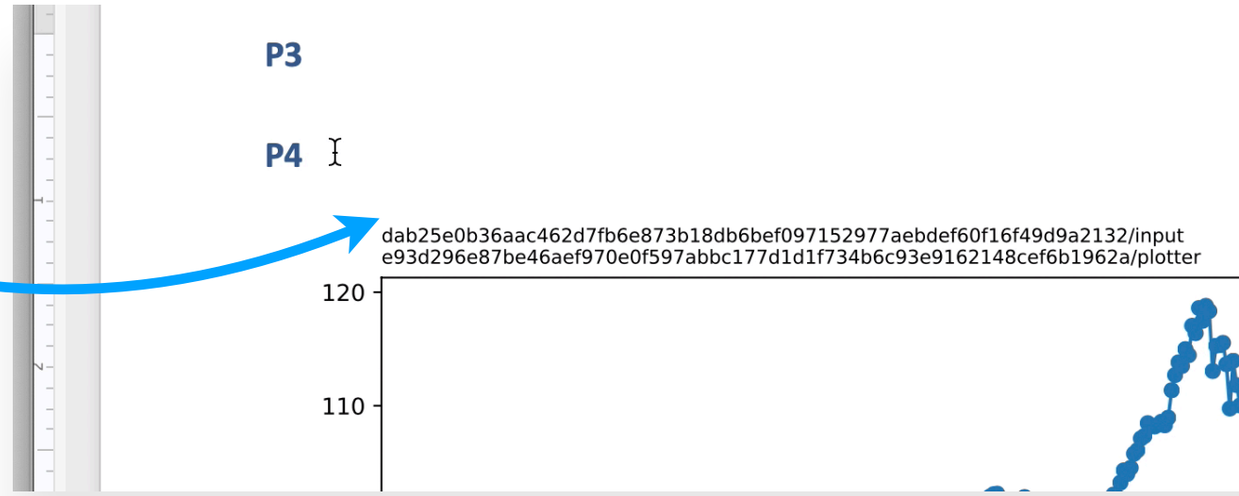
(Word users on Windows: If the pdf doesn't work in your write-up, try inserting the plotter's .svg file instead. Check the pdf first though!)

Preparing an assignment

To insert graphics into your write-up



Write-up

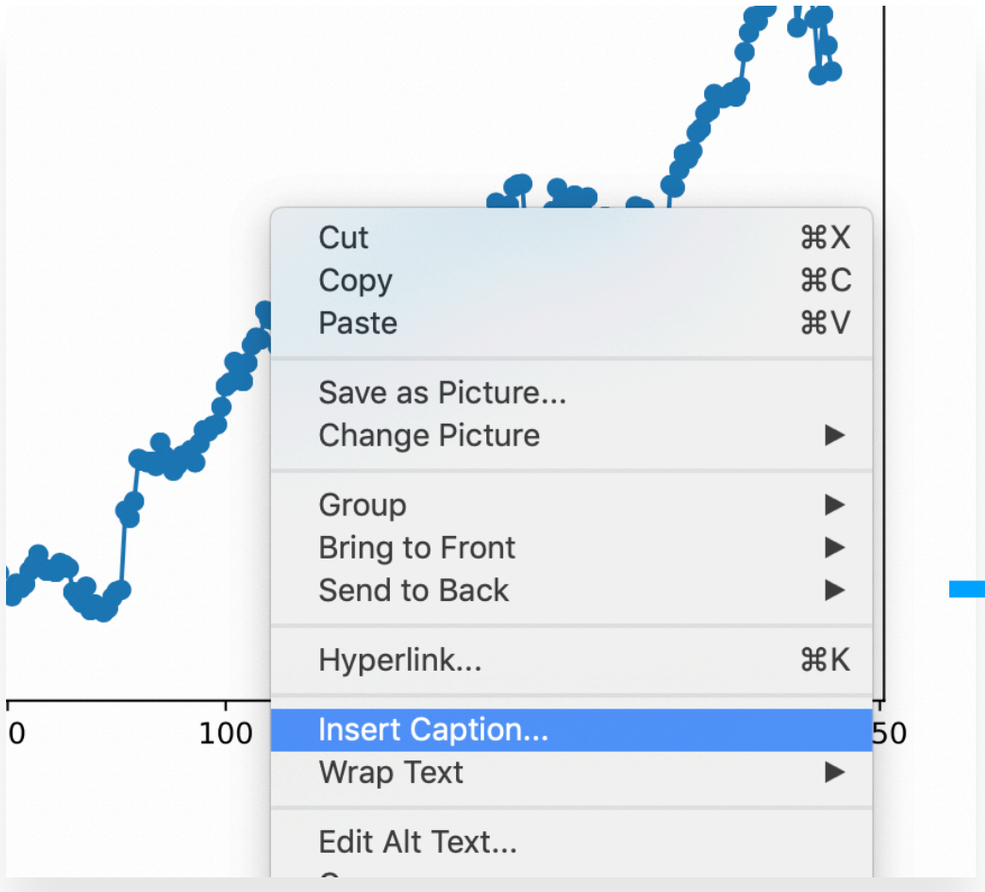


1. Insert figure by drag-**and-drop** or menu command

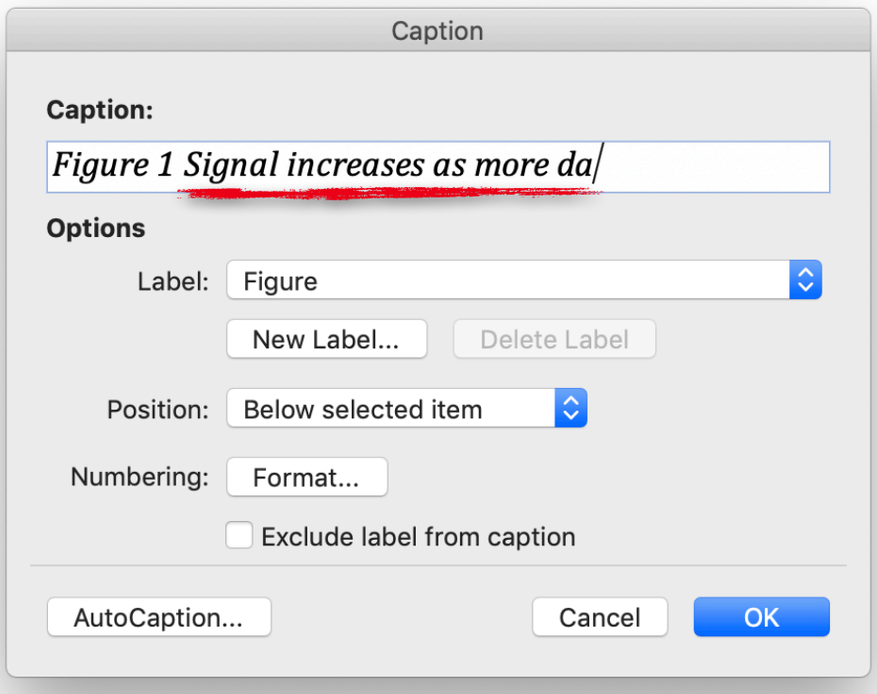
Preparing an assignment

To insert graphics into your write-up

2. Select "**Insert Caption…**":



3. Type a descriptive caption:



Preparing an assignment

To insert graphics into your write-up

4. Confirm caption has been added

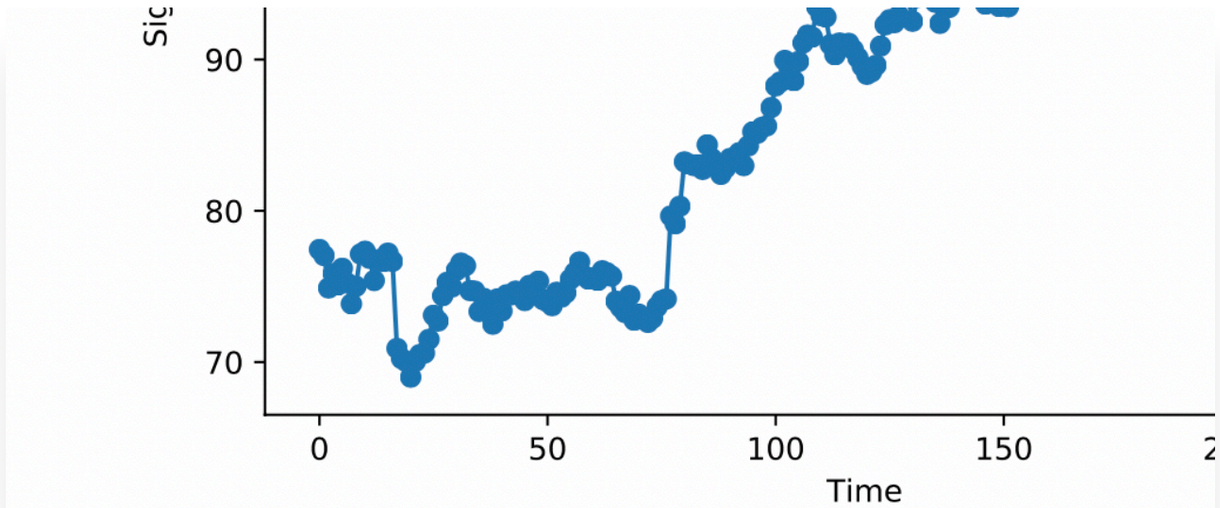


Figure 1 Signal increases as more data are collected.

Taking care to manage the experimental resources, we will need

For more information:

- Office.com: Add, format, or delete captions in Word
- YouTube: Word 2016 Tutorial Inserting Captions
- YouTube: Matplotlib figures in MS Word 2016

All captions *must* include descriptive text following the figure number. Writing only "Figure 1", for example, is *not sufficient*.

Preparing an assignment

Graphics Requirements

- All figures must be captioned and placed in appropriate position within write-up
- Ensure figures are numbered appropriately as instructed (Figure 1, Figure 2, etc.)
- Write-ups with unnumbered or uncaptioned figures may be ***returned ungraded***

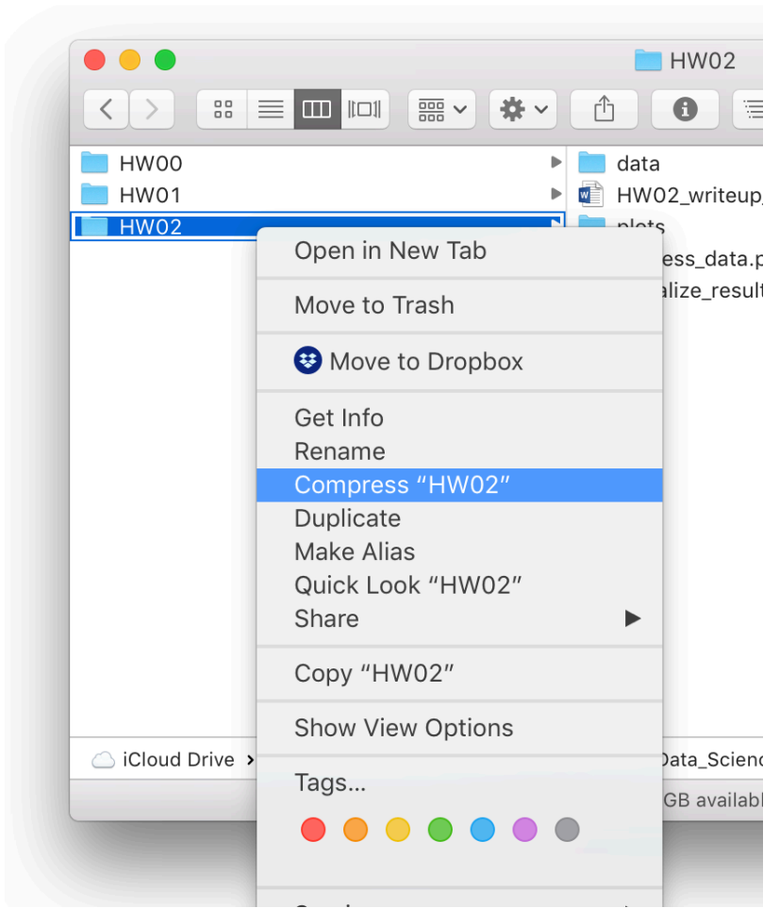
Tables must be captioned just like figures (Table 1, Table 2, etc.)

Always use Word for tables Office.com: Insert a table

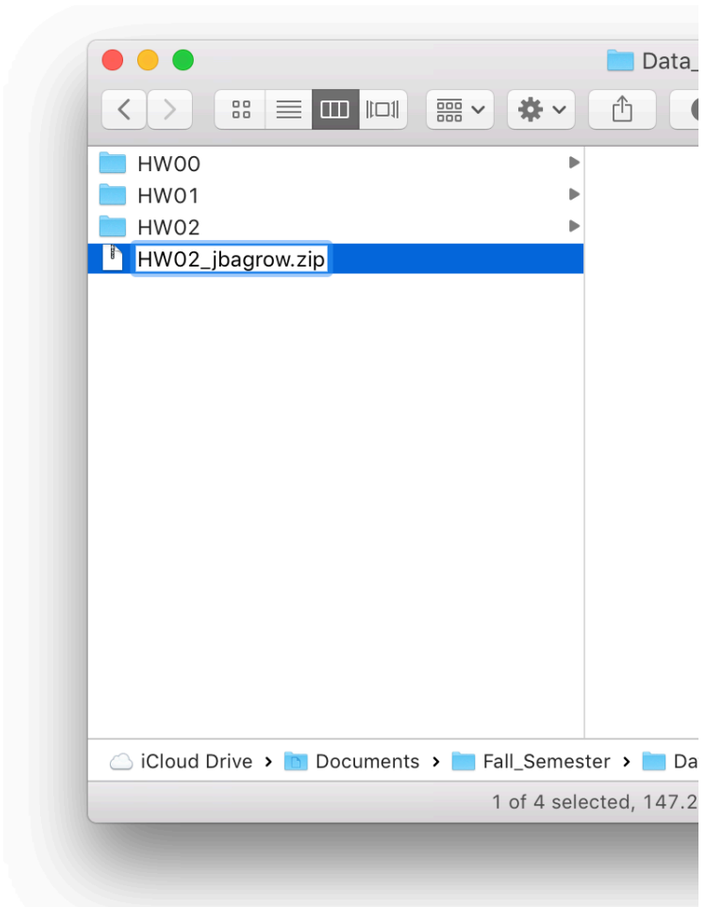
Submitting an assignment

Submitting an assignment

1. Compress **enclosing folder** to a *zip** file



2. **Rename** the zip file according to assignment instructions as needed

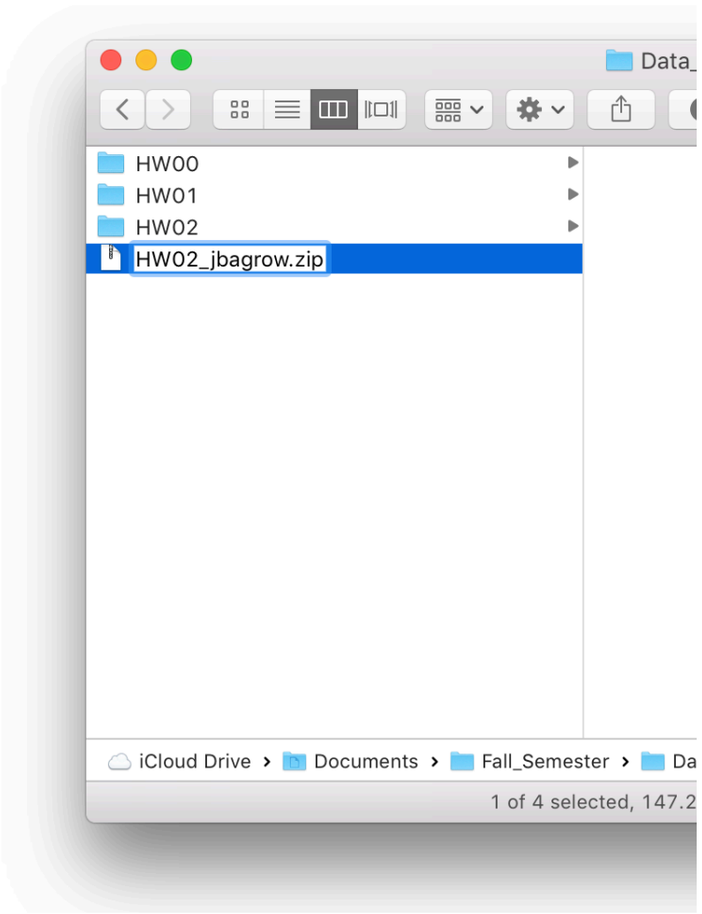


* Use zip, not 7zip, gzip, rar, etc.

Final zip file should be smaller than approx. 50-100 megabytes (you can exclude large files if necessary)

Submitting an assignment

2. **Rename** the zip file according to assignment instructions as needed



3. Lastly, upload to Blackboard

Submission checklist

- ☐ Read the entire instructions before you begin the assignment
- ☐ File and folder names match assignment instructions
  - ☐ Any plotter scripts have been used appropriately
- ☐ Python code included
  - ☐ No absolute paths in your Python code
- ☐ Write-up complete
  - ☐ Your correct name and date are inside the write-up
  - ☐ Plots and graphics appropriately formatted and labeled (captioned)
- ☐ Enclosing folder compressed to a zip file and uploaded to **Blackboard**
  - ☐ Large files excluded if necessary; final upload smaller than 50-100 megabytes

Code specifics

Use *relative* paths in your code

Stay inside the enclosing folder to make assignments *self-contained*

Make sure any code you submit only reads files from locations within the enclosing folder and only writes files to locations within the enclosing folder

Use relative paths not absolute paths

```
open("data/experiment1/example.csv")
pyplot.savefig("plots/prev_day_counts.pdf")
```

relative to enclosing folder

```
open("C:\user\docs\DS1\HW02\statistics\output01.txt", 'w')

pyplot.savefig("/Users/jbagrow/Documents/Fall_Semester/Data_Science_I/HW02/plots/
prev_day_counts.pdf")
```

Paths should *not contain references* to locations outside the enclosing folder

this code won't run on another computer!

→ Be sure to name any files as instructed

See course reading for more on *file paths*

See also: *working directories*

Plots and graphics

As discussed above (Preparing an assignment), you will be asked to generate **graphics**—such as screenshots or plots—for this course

- Screenshots can be **captured using tools built into your computer operating system**, and are typically generated as png or jpeg (raster) images.
- Plots will usually be made using Matplotlib, a popular third-party Python library

Many assignments, especially early on, will come with **plotter scripts**. You will need to *prepare the files read by these scripts*, run the scripts, then insert the created plots into your write-up.

The first homework comes with an example plotter script and input (data) file, to learn how these work.

Eventually, you will need to generate your own plotting code

Using plotter scripts

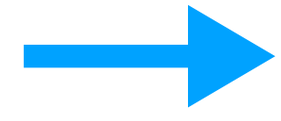
HW01 comes with a simple plotter script (`plotter.py`) for you to become acclimated to using it. This script reads a provided text file (`test.csv`) and generates a simple plot (`plotter.pdf`).

- Future assignments may contain more complex plotter scripts and you will need to generate the input file(s)
- Eventually, you will need to make plots without being given a script
- All plots must be inserted into your write-ups according to the requirements given above ("Preparing an assignment")

Unless instructed otherwise, do not modify any plotter scripts:

1. Hashes are embedded in each plot file that can detect if the plotter script has been changed.
2. If the script is modified, or not used at all, the assignment may be returned ungraded.

All plotter scripts come with **descriptive help messages** to learn what input(s) they require



Plotter help messages

Plotter scripts are run like any Python script (see Python setup / Running code)

Plotter scripts can also print a help message instead of running. Here's how to do this in Spyder:

1. Running the script by pressing the "play" button
   - 1a. Plot is saved in this case to `plotter.pdf` → goes into write-up

2. Manually entering "`run plotter.py -h`" or "`run plotter.py --help`" into the console will instead display the help message
   - 2a. Here the help message tells us that a file is read called "`test.csv`"

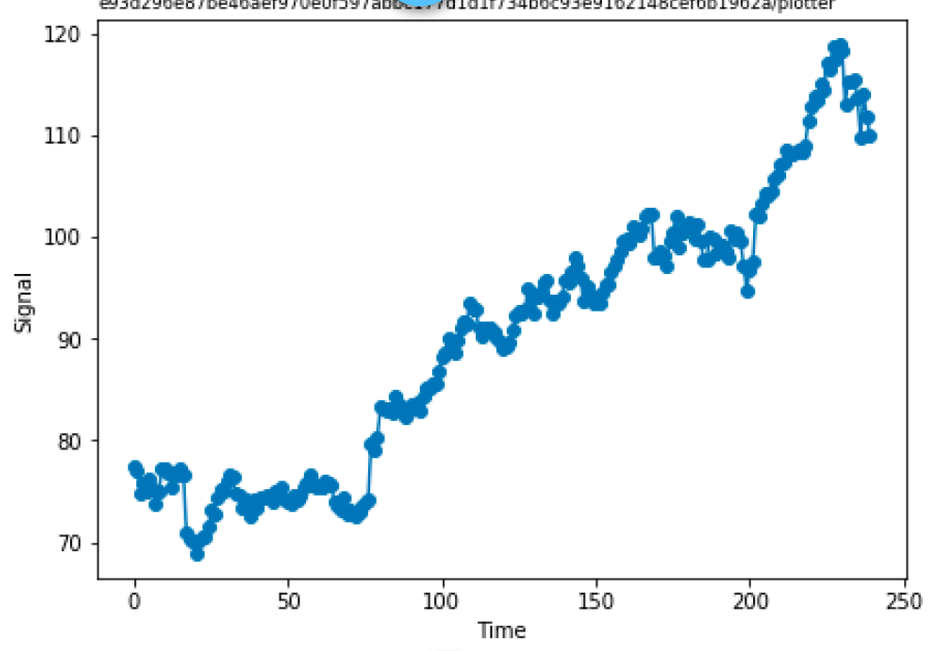
IPython console inside Spyder:

1

```
In [1]: runfile('/Users/bagrowjp/teaching/STAT287_F2019/HW01/plotter.py', wdir='/Use
File created: plotter.pdf at location /Users/bagrowjp/teaching/STAT287_F2019/HW01
```

1a

dab25e0b36aac462d7fb6e873b…097152977aebdef60f16f49d9a2132/input
e93d296e87be46aef970e0f597ab…7d1d1f734b6c93e9162148cef6b1962a/plotter




```
In [2]: run plotter.py -h
usage: plotter.py [-h]

This is a TEST PLOTTER SCRIPT for your first homework. In the future, you will
need to prepare the input file(s) (in this case, the input (test.csv)
already been provided). For plotter scripts where you generate the input file,
use the help string to understand the format of input file. Assignments with
figures generated outside plotter scripts when a plotter script should have
been used will NOT BE ACCEPTED. Likewise, assignments using plotter scripts
you have modified will not be accepted.

optional arguments:
  -h, --help  show this help message and exit
```

2

2a