

Kickoff

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MUD cards

- ▶ questions about getting lecture notes before class and/or solutions in `after_lecture` – all of this is posted. if you aren't sure how to get them, ask a peer.
- ▶ questions about git – at the moment, continue to muddle through. Will have a lecture and a problem set on this later in the course.
- ▶ PG remark on professionalism: be on time. it is particularly awkward to get mud cards saying that something is unclear from someone who was late and missed the part of class where some material is covered.
- ▶ Relatedly: lab quizzes will now close after the first 10 minutes of lab.

“Why are we switching to VSCode?”

Joaquin (TA): “It’s much much better”

Some strengths we have noticed

- ▶ Software of choice for developing in many languages (not just Python)
- ▶ Supports `qmd`
- ▶ Elegant integration with `git` and virtual environments (coming soon)
- ▶ Github Copilot (discouraged for this course, but super useful down the road)

Knitting to pdf I

We finally have a solution for this! (also MUD) Can see Peter's issue ticket *here*

1. terminal

```
pip install vl-convert-python --upgrade
```

2. python kernel

```
import altair as alt
alt.renderers.enable("png")
```

3. qmd header

```
---
title: "My Pset"
format: pdf
---
```

Knitting to pdf II

Five instructors tested this solution on a variety of machines (thank you!!!).

- ▶ You also need to have a `tex` compiler installed to write to PDF. Most people already do, but some might not. Post in Ed if you are finding issues related to this
 - ▶ Shoutout: Ralph Valiere posted a useful tip on Ed for PC users!
- ▶ Only run `alt.renderers.enable("png")` if you want to make `.pdf`. If you want to make `.html`, no need to include this (and it might lead to errors)
- ▶ One also found that they needed to run `pip install ipykernel`

As usual, we don't know what will work on your computer, so please report bugs and issues!

Announcements on homepage

- ▶ minilesson recordings on homepage. Will continue to record but will not send separate announcements
- ▶ Upcoming career panels on Nov 8 and Nov 15. RSVP link on homepage.

PS1 Debrief

- ▶ Not many “coding errors” or technical issues. The main issue was students not reading the questions.
 - ▶ did not use assert
 - ▶ did not calculate in megabytes
 - ▶ did not predict what is the size of the entire file.
- ▶ Many students wrote the correct code but did not make sure that the output answering the question was in the knitted document

Debrief question 1.3

The rows on the dataset are ordered or sorted by a certain column by default. Which column? Then, subset the dataset to the first 500 rows and write a function that tests if the column is ordered.

- ▶ Most students only checked the index column ("Unnamed: 0"), but didn't check other column like "issue_date", which is actually ordered
 - ▶ This is because no `head()` or `print()` function used to visually inspect the columns

Debrief questions 3.4

3.4: Make a plot for the number of tickets issued by month and day by adapting the Annual Weather Heatmap example online. What visual encoding channel or channels does this use?

- ▶ Make sure that your plot prints and is not cut off
- ▶ Written answers belong outside Python code chunks (just like in the slides for the course).

Example

This is outside the code chunk

```
alt.Chart(...)
```

Debrief questions 3.7

3.7: Suppose the lesson you want a read to take away is that the enforcement of violations is not evenly distributed over time? Which plot is best and why?

- ▶ Some students printed long responses as strings/comments, making it hard to view the text
- ▶ Double-check your work after you compile