EXAM 1 PRACTICE PROBLEMS

PUBPOL 2130 / INFO 3130
MOON DUCHIN, SPRING 2025

From notebooks.
(1) Suppose a dataframe called `df` has one column that contains the number of Clinton votes and another that contains the number of Trump votes. Write code that adds a column to your dataframe that gives the Clinton share of the vote.
(2) Suppose `arr` is an plain Python array of strings. What does this code do?

```
print([s for s in arr if len(s) >= 5])
```

Give a (nontrivial) example.
(3) Here's a code block:

```
import pandas as pd
data = { "A": [5, 15, 25, 35, 45, 55, 65], "B": [10, 20, 30, 40, 50, 60, 70],
"C": [2, 4, 6, 8, 10, 12, 14] }
df = pd.DataFrame(data)
```

Questions
- Is B a row or column of this dataframe?
- what does `df.head(2)` return?
- write an expression for the sum $10 + 20 + 30 + \cdots + 50$ using this dataframe.

From readings.
True/False and explain. *Your answer should show some knowledge about the topics discussed.*
- Today, several countries are still fighting over wedges of Antarctica.
- In Brazil, if you are racially mixed, you are considered Black under the so-called "One Drop Rule."

Short answer.
- Melissa Nobles tells us that in the Soviet Union in the 1930s, "Senior statisticians who had supervised the census were arrested and shot." Why? (And even if you don't remember this specific example, what could be so scandalous in a census?)
- James Scott talks about high modernism as "a strong, one might even say muscle-bound, version of the self-confidence about scientific and technical progress." Is this automatically dangerous — and if not, what is needed for it to become dangerous?

From lecture.
True/False and explain. *Your answer should show some knowledge about the topics discussed.*
- The South African apartheid government did not need a bureaucracy for race classification because it was defined and enforced purely socially.
- Raster data is essentially outdated and is not used in modern computer-based geography.
- Not every state has census blocks, and for the ones that do, they nearly always have between 100 and 500 people.

Short answer.
- In Ian Hacking's "making up"/"looping" framework, were there autistic people in the ancient world?
- In what sense does zoning resemble confiscation, or taking land away from landowners?

How I figure time: budget 5 minutes for each of the three Python questions, 5 minutes for each bulleted reading/lecture question. This full set of questions would be budgeted at 60 minutes. Your test next week will be shorter, budgeted for 40 minutes.