ECON 481 (Spring 2024)

Lukas Hager

2024-03-27

Introduction to 481

What is This Class?

- This class will teach you what I wish I had known when I started my first job out of college (Economic consulting)
- In particular: you will learn applied tools for doing empirical Economic research

Tools

▶ To be a valuable contributor in empirical work, there are basically infinite tools that you can/will use
▶ I will focus on the following tools, which I have found to be the highest ROI in my own career/research
  ▶ Git
  ▶ Python
  ▶ SQL
  ▶ R

Skills

▶ We'll also work on some techniques leveraging these tools
   ▶ Web scraping
   ▶ Data visualization
   ▶ Building modules/classes
   ▶ Creating reports or documents programmatically
     (e.g. Markdown/Quarto)

Syllabus

Grading

- 60% Problem Sets (submitted individually, group work is fine)
- 10% Final Project Proposal (submitted as a group of no more than 3, due Friday, May 10)
- 30% Final Project Presentation/Submission

Homework

▶ Can work as a group, must submit your own work individually
▶ Must submit both the code files (i.e. `.py` or `.R` files) and a link to a GitHub repository with the code (ideally with multiple commits)
  ▶ Having GitHub will help you in the long-run!

⚠ **Warning**

Problem sets are unit tested, so follow the problem set instructions *very carefully*.

Final Project

- ▶ You will write code to implement some analysis with data you choose
- ▶ You will work in groups of no more than 3
    - ▶ All group members must have commits to the GitHub repository
- ▶ You will submit a python module that implements the full analysis (i.e. cleaning, aggregating, analyzing, outputting results)
- ▶ You will present your analysis to the class

Canvas

▶ We will only use Canvas for assignment submission
▶ All course material (slides, datasets, etc.) will be hosted here
▶ The week's slides will be made available at the end of Wednesday's lecture

Office Hours

- I suspect that holding them on Tuesday will be most helpful
- When are you available?

JupyterHub

- We're going to try to use JupyterHub
- Please try to connect and pull the GitHub repository for the class

Class Philosophy

Game Theory Review

	A	B
A	10,10	2,12
B	12,2	7,7

▶ What are all the Nash equilibria of this game?
▶ What is its name?
▶ What is the Pareto optimal outcome?

Game Theory Review

	A	B
A	10,10	2,12
B	12,2	7,7

▶ What are all the Nash equilibria of this game?
▶ What is its name?
▶ What is the Pareto optimal outcome?

▶ Can we sustain (A,A) as an equilibrium? When?
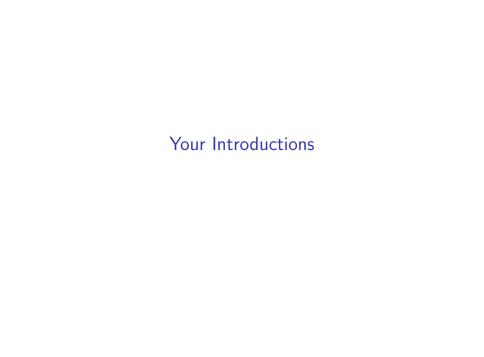
The Social Contract

The Social Contract

"Let us then admit that force does not create right, and that we are obliged to obey only legitimate powers." - Rousseau, The Social Contract

The Social Contract

"Let us then admit that force does not create right, and that we are obliged to obey only legitimate powers." - Rousseau, The Social Contract

▶ His point(s):
- ▶ Those who are powerful do not get the right to rule because they can
- ▶ Citizens cannot be compelled to submit to government they feel is unjust

Your Introductions

What I'd Like to Know

- Your preferred name
- Your familiarity with python
- A dataset that you'd find interesting
- One thing you'd like to learn from this class