Final Project: Decide, Execute, Deliver

The Project

The final project follows the decide–execute–deliver sandwich. You will spend your judgment on choosing a good question and deciding what evidence would answer it. You may use AI heavily to execute the analysis. You will then turn the result into a clear and accessible explanation.

Installing your agent of choice is the last hard software task you will ever do :). After that, ask the agent to help you install packages, write and revise code, diagnose errors, test alternatives, and improve figures. You remain responsible for every decision, claim, and file in the repository. Check the code, inspect the data, challenge surprising results, and be prepared to explain what the analysis does.

Final Repository (50 points)

Submit your **public GitHub repository** through Gradescope's GitHub submission option by **11:59pm Friday, December 18**. Use the project template and add your public repository URL to `REPOSITORY_URL.txt` before submitting.

The README is your report. A reader should understand the question, evidence, and answer without opening a notebook or reading the source code. Include:

- The smallest example or observation that builds intuition for the problem.
- The data source, unit of observation, important limitations, and the exact outcome or comparison.
- A naive baseline, followed by the evidence showing what it captures and what it misses.
- The exploration and course method you used after the baseline, including comparisons or checks that could reveal a mistake.
- At least three figures generated by your code and embedded near the claims they support (each must have a caption stating the figure's takeaway).
- The answer your evidence supports, its limits, and the next question you would ask.
- One command that reproduces the analysis, plus an account of your AI use in `AI_USAGE.md`.

Commit all code needed to reproduce the work. Do not commit private data, passwords, API keys, or large generated files. If the data cannot live in the repository, give exact download or construction instructions in `data/README.md`.

An automated test on GitHub checks public access, required sections, embedded figures, code, dependencies, and reproduction instructions.

The repository will also be graded based on:

- The decision layer: question, intuition, data, baseline, and evaluation plan.
- The execution layer: correct analysis, comparisons, checks, and reproducible code.
- The delivery layer: a readable README, well-chosen figures, supported conclusions, and honest limitations.

Presentation (25 points)

Submit public or unlisted links to **two recordings** of your presentation via Gradescope by **11:59pm Sunday, December 13**. Revise the second recording after watching the first. Presentations during finals week are short so practice with a timer.

Your presentation should give the audience the same path as the README: the question, the naive answer, what that answer misses, the analysis, the visual evidence, and what you now believe. Use at least three figures generated by your code.