# ECON 0150 | Spring 2025 | Homework 2.2

## *Due: Friday, February 20 at 5PM*

Homework is designed to both test your knowlege and challenge you to apply familiar concepts in new applications. Answer clearly and completely. You are welcomed and encouraged to work in groups so long as your work is your own. Use the datafiles to answer the following questions. Then submit your figures and answers to Gradescope.

### Q1. Amazon Book Sales by Genre

We'll explore the list of 50 bestselling Amazon books each year between 2009 and 2021. The column `Genre` describes whether the bestseller is Fiction or Non-Fiction.

a) Create a boxplot showing the distribution of `User Rating` by `Genre`.

b) Add a stripplot on top of your boxplot to see individual books.

c) Calculate the mean, standard deviation, and count of `User Rating` by `Genre`.

d) Which genre has higher average ratings? Is there substantial overlap between the two distributions?

### Q2. Marriage Rates by Continent

The following questions are based on **crude marriage rates** — numbers of marriages per one thousand inhabitants. Each row represents a different country.

a) Create a boxplot showing the distribution of `Marriage_Rate_per_1000` by `Continent`.

b) Add a stripplot to see individual countries within each continent.

c) Calculate the mean, standard deviation, and count of marriage rates by continent.

d) Which continent has the lowest mean marriage rate? Which has the most variation (highest standard deviation)?