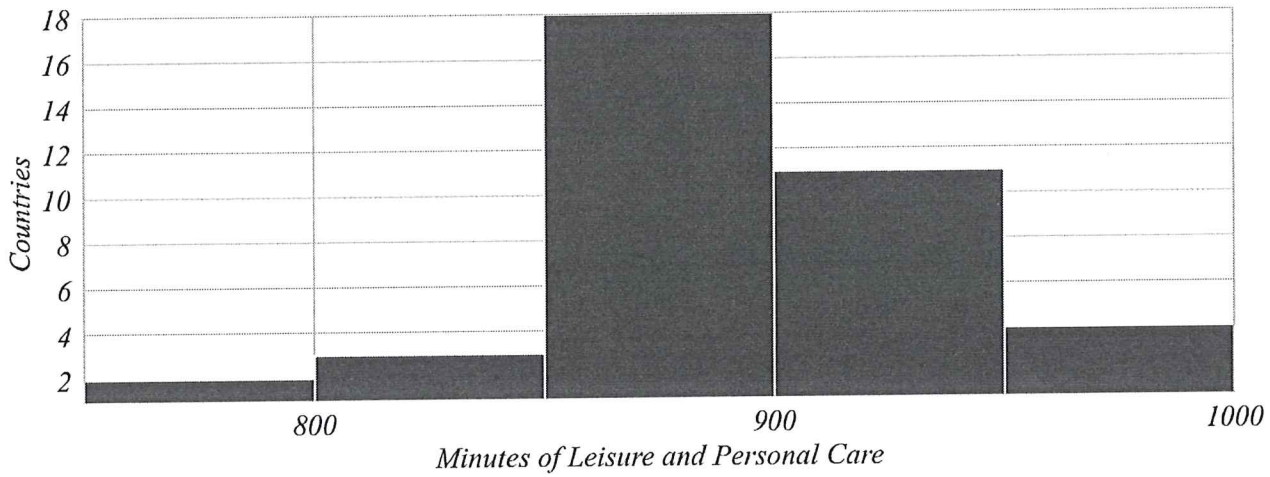
Econ 0150 | Fall 2024 | Homework 1

Due: Thursday, Sept. 12

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. Understanding Continuous Variables Visually

The following data from the Better Life Index was collected from OECD countries use using time-use surveys. This question is aimed at practicing the skill of analyzing continuous variables displayed visually.



a. What is the most common 50 minute range of time spent on leisure? 850-900

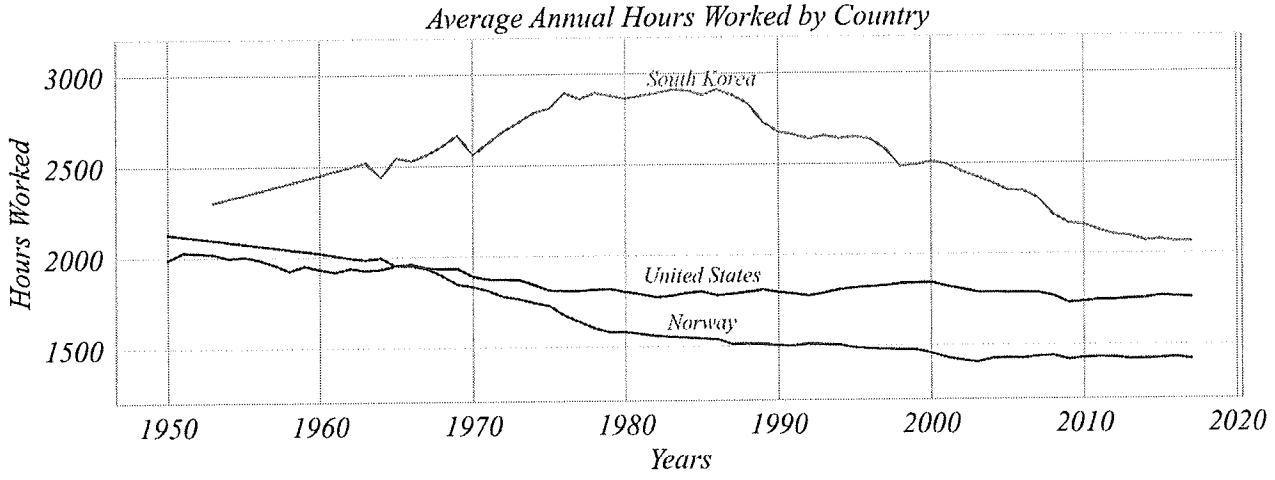
b. In how many countries do people spend between 800 and 850 minutes on leisure and personal care? 3

c. How many countries spend more than 900 minutes on leisure and personal care? 15

d. What is the approximate difference between the two most common ranges? 18-11=7

Q2. Making Comparisons with Continuous Variables

The following data on hours worked is available from Our World in Data. This question is aimed at practicing the skill of making comparisons of continuous variables displayed visually.



a. In which country did people work the most on average?

- South Korea ✓
- United States
- Norway

b. When did Norwegians work less than Americans?

- Before 1965
- During 1965
- After 1965 ✓
- Never

c. When was the largest difference between the longest and the shortest annual working time?

- 1960s
- 1980s ✓
- 2000s
- 2010s

d. In the 1980s, roughly how many times more did an average South Korean work than an average Norwegian?

- 2x ✓
- 3x
- 4x
- 5x

Q3. Marriage Rates EXCEL FILE

The following questions are based on crude marriage rates — numbers of marriages per one thousand inhabitants — in countries and territories on different continents in the year 2018 (or if unavailable, the most recent preceding year). Use the dataset *Marriage_Rates.csv* and Excel for these questions.

a. Use a filter to select and plot the marriage rates for African countries. Which African country has the highest marriage rate?

b. Use a pair of filters to select the African counties with marriage rates smaller than 2. How many African countries have marriage rates this low?

c. Use a pair of filters to select and plot the marriage rates of counties globally with unusually high or low marriage rates (rates less than 1 or above 20). How many counties have these very high or very low rates?

d. Use a pair of filters to select Oceanian countries with marriage rates above 10. How many countries and territories in Oceania have marriage rates above 10?