Name: TAYLOR'S SOLUTIONS Student ID: :)

ECON 0150 | MiniExam 1 | Version A

This MiniExam will take 20 minutes. For each dataset, identify its dimensions and select an appropriate visualization. Answer clearly and concisely. Data tables are provided on pages 3-4.

Academic Conduct Code

The following academic conduct code is designed to protect the integrity of your work. Print your name/initials beside the three academic honesty agreements. I pledge to my fellow students, the university, and the instructor, that:

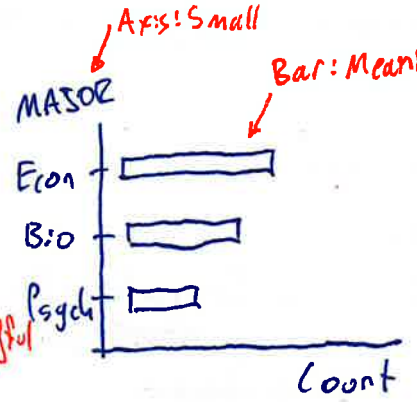
✓ Complete this MiniExam solely using my own work.
✓ Not use any digital resources unless explicitly allowed.
✓ Not communicate directly or indirectly with others during the MiniExam.

Q1. Student majors at a university (see Table 1)

a) **Diagram the data:**

- Index Variable(s) Name: Student_ID (i) (Meaningful)
- Meaningful Variable Type: ~~[illegible]~~ Nominal Cat
- Data Structure: Cross-Section (Meaningful) Small (↑) Meaningful (↑)

b) **Draw the most effective visualization for the question:** →
"Which major has the most students?"

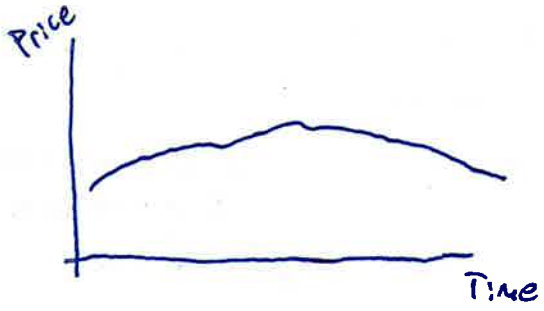


Q2. Weekly gas prices in Pennsylvania (see Table 2)

a) **Diagram the data:**

- Index Variable(s) Name: Week (t)
- Meaningful Variable Type: Continuous Num
- Data Structure: Timeseries

b) **Draw the most effective visualization for the question:** →
"How have gas prices changed over the past many weeks?"

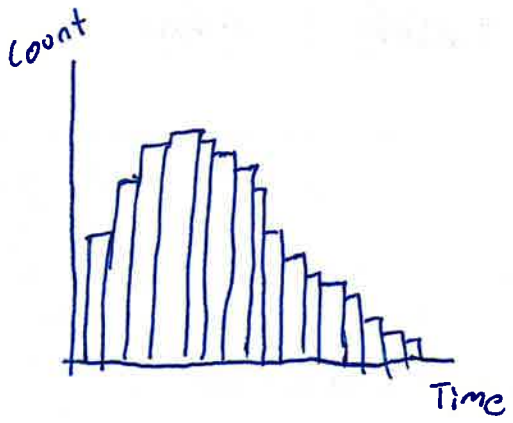


Q3. PRT bus rider commute times in minutes (see Table 3)

a) **Diagram the data:**

- Index Variable(s) Name: Rider_ID
- Meaningful Variable Type: Continuous Num
- Data Structure: Cross-Section

b) **Draw the most effective visualization for the question: →**
"What is the distribution of bus rider commute times?"

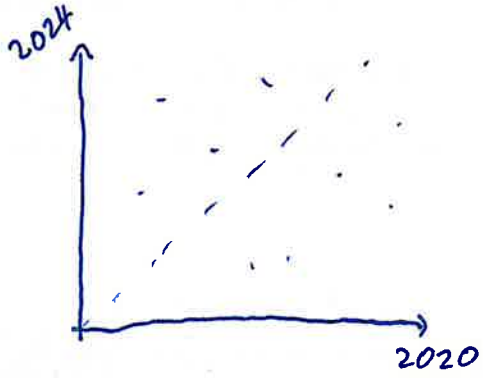


Q4. Annual tax revenue for four cities (see Table 4)

a) **Diagram the data:**

- Index Variable(s) Name: City
- Data Structure: Wide Format Panel

b) **Draw the most effective visualization for the question: →**
"How did each city's tax revenue change from 2020 to 2024?"

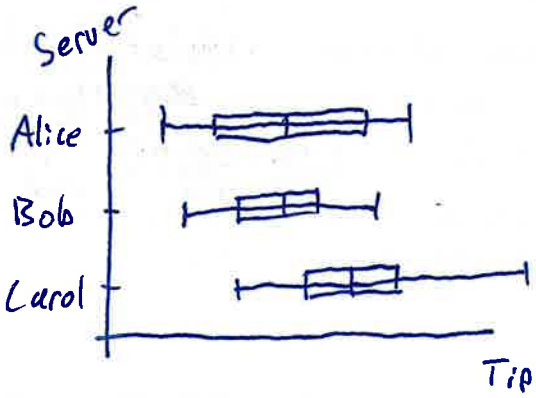


Q5. Restaurant tips by server (see Table 5)

a) **Diagram the data:**

- Index Variable(s) Name: Transaction-ID
- Meaningful Variable Type: Continous Num
- Data Structure: Cross-Section

b) **Draw the most effective visualization for the question: →**
"Do tips vary by server?"

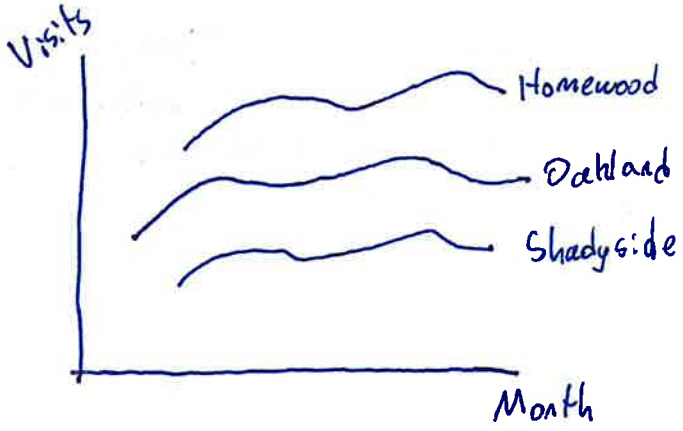


Q6. Monthly food bank visits by neighborhood (see Table 6)

a) **Diagram the data:**

- Index Variable(s) Name: Neighborhood, Month
- Meaningful Variable Type: Discrete Num
- Data Structure: Long Format Panel

b) **Draw the most effective visualization for the question: →**
"What are the trends in food bank visits by neighborhood?"



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Q1

a. Excellent if everything is correct.

Satisfactory if missing Cat or Num. type: only listed Cat or Num.

Progressing if one meaningful correction (and/or a small correction).

Incomplete if multiple meaningful corrections.

b. Excellent if everything is correct: Bar.

Satisfactory if missing labels or some other small detail.

Progressing if using a pie chart correctly.

Incomplete if using a pie chart badly.

Q2.

a. Same as Q1a.

b. Excellent if everything is correct: Line.

Satisfactory: if using a Histogram or similar but showing the data, or missing labels or other detail.

Progressing if using some other visualization.

Incomplete if using any figure but badly.

Q3.

a. Same as Q1a.

b. Excellent ...

Satisfactory if using a boxplot correctly or a histogram presented with a line.

Progressing if using some other visualization but showing the data somehow.

Incomplete if using any figure but badly.

Q4

a. Same as Q1a, just without variable type question.

b. Excellent ...

Satisfactory if missing labels or 45° line.

Progressing if using a multiline graph correctly.

Incomplete if using some other visualization of the data.

Q5

a. Same as Q1a.

b. Excellent...

Satisfactory if missing labels or other small correction.

Progressing if using a multiline graph correctly.

Incomplete if using some other visualization.

Q6

a. Same as Q1a, but with two index variable names.

b. Excellent ...

Satisfactory if missing labels or other small correction.

Progressing if using some other visualization correctly.

Incomplete if using some other visualization badly.