

For this assignment, you will be **designing a data collection protocol** and then **collecting data** for a study.

First, look at the spreadsheet of the data that was collected last week. This is the data from the survey taken in class, and it represents both sections of Math 175. The survey items are shown here for your reference:

1.	Home: City _____ State/Province _____ Country _____
2.	Age: years: _____ + months: _____
3.	What year did you graduate high school (or equivalent)? _____
4.	Number of siblings (half/step included): _____
5.	Driving time to your permanent residence (rounded to nearest 5 minutes): _____
6.	How many credits are you enrolled in this term? _____
7.	Class standing (circle): FR SO JR SR UNSURE
8.	For how many years did/have you play organized sports? _____
9.	Mac or PC? (circle) MAC PC BOTH
10.	Which hand are you writing with right now? (circle) LEFT RIGHT
11.	What mode of transportation did you use to get to class today? _____
12.	How much money will you spend today commuting to and at school? (lunch, estimated transit costs, etc.): \$ _____
13.	Approximately how many times do you cook your own dinner each week? (circle) 0 1 2 3 4 5 6 7
14.	How many people (adults & children) live full-time in your residence, including you? _____
15.	Approximately how many hours per week do you exercise? (estimated to whole numbers, please) _____
16.	What time did you go to bed last night? _____
17.	What time did you wake up today? _____
18.	Number of airplane flights you took in 2018: _____
19.	How much money do you have in coins with you right now? \$ _____
20.	Is your smartphone with you and turned on right now? (circle) YES NO
21.	If yes, how many different people did you text with in the last 24 hours? (check your phone) _____
22.	Also if yes, how many different people did you talk to on the phone with in the last 24 hours? _____
23.	Are you wearing either glasses or contact lenses right now? (circle) YES NO
24.	How many Harry Potter books have you read entirely (circle one): 0 1 2 3 4 5 6 7 8 9 10 11
25.	Flip a coin. What outcome did you get? (circle)? HEADS TAILS

Describe two interesting, confusing, or paradoxical data points:

(1)

(2)

Describe interesting, confusing, or paradoxical things about two of the variables (columns) in the dataset.

(1)

(2)

The five variables below come from the spreadsheet. Identify which of the survey questions each corresponds to.

- *Credits* is the variable with responses to question number\_\_\_\_\_
- *Exercise* is the variable with responses to the question number\_\_\_\_\_
- *Wake* is the variable with responses to question number\_\_\_\_\_
- *Flights* is the variable with responses to question number\_\_\_\_\_
- *Talk* is the variable with responses to question number\_\_\_\_\_

Classify each of these variables:

	Quant = Quantitative Qual = Qualitative	Disc = Discrete Cont = Continuous	N = Nominal / I = Interval O = Ordinal / R = Ratio
	Qual or Quant?	Disc or Cont?	Level of Measurement
<i>Credits</i>	<b>Qual – Quant</b>	<b>Disc – Cont</b>	<b>N – O – I – R</b>
<i>Exercise</i>	<b>Qual – Quant</b>	<b>Disc – Cont</b>	<b>N – O – I – R</b>
<i>Wake</i>	<b>Qual – Quant</b>	<b>Disc – Cont</b>	<b>N – O – I – R</b>
<i>Flights</i>	<b>Qual – Quant</b>	<b>Disc – Cont</b>	<b>N – O – I – R</b>
<i>Talk</i>	<b>Qual – Quant</b>	<b>Disc – Cont</b>	<b>N – O – I – R</b>

For each of the variables above, identify a second variable NOT IN THE SURVEY that may *indirectly* tell you about a person. (For example, *coins* might be able to tell you whether a person carries a purse.)

*Credits* may be associated with \_\_\_\_\_, which is classified below.

**Qual – Quant                      Disc – Cont                      N – O – I – R**

*Exercise* may be associated with \_\_\_\_\_, which is classified below.

**Qual – Quant                      Disc – Cont                      N – O – I – R**

*Wake* may be associated with \_\_\_\_\_, which is classified below.

**Qual – Quant                      Disc – Cont                      N – O – I – R**

*Flights* may be associated with \_\_\_\_\_, which is classified below.

**Qual – Quant                      Disc – Cont                      N – O – I – R**

*Talk* may be associated with \_\_\_\_\_, which is classified below.

**Qual – Quant                      Disc – Cont                      N – O – I – R**

**Next, choose one pair of variables from the five pairs above to focus on for the rest of this assignment**

Specify the dependency of the two variables you've selected by in the sentence below:

**We believe that \_\_\_\_\_ is dependent upon \_\_\_\_\_**

Explain your group's reasoning behind the previous sentence:

**Now, create a plan for collecting data from at least 30 friends to test the conjecture above.**

Discuss in your group how you will collect data from 30 or more subjects for the two variables above (one variable will be *Credits*, *Exercise*, *Wake*, *Flights*, or *Talk*, and the second will be the one you came up with). Design a plan to collect the data, making sure that you've considered the questions below.

Be sure to make it a plan that you can actually undertake given the resources that you have available to you. It should be an easy task or else it may get unreasonably difficult very quickly.

How will you contact or access your subjects?

How will you ensure that your sample is an unbiased one?

How will you ensure that all of you are collecting data in exactly the same way?

How will you know that the subjects are giving you valid and reliable information?

Write out your plan *in detail* below.

**Data Collection Plan:**

You're not done yet! Flip to the next page to discuss confounding variables.

List three confounding variables and explain how you might control for each:

1<sup>st</sup> confounding variable: \_\_\_\_\_

Control:

2<sup>nd</sup> confounding variable: \_\_\_\_\_

Control:

3<sup>rd</sup> confounding variable: \_\_\_\_\_

Control:

**Submit this completed document today and collect the data, just as you've described, over the next week.**

**Bring your data with you to class on Tuesday, January 22**