Storing Data in Python

One of the most important parts of computer coding is storing data in a way that it can be accessed when needed by a program. Very little can happen in a program unless information is stored in variables, to be accessed and manipulated as needed.

This activity will introduce you to the challenges that can arise when trying to collect and organize data efficiently. It does not involve any coding, but you'll need to work together to organize the information in a useful way.

Part 1: Gather the data.
Pair up with someone in your group and interview them, recording their exact answers to the following questions:
- What is your name?
- What month were you born?
- Do you have any siblings? If so, how many?
- Where is the last place you traveled to outside of the Las Vegas area?
- What is your major?
- What is your favorite number? Why?
- What is the course you are most worried about this semester?
- What is your favorite thing about yourself?
- What is the first thing you would buy if someone handed you $1million?
- How many turns does it take to get from your home to this room?
- How many gas stations are in Nevada (no searching the web for an answer)?
- What is your class schedule (the days and times you are in class)?

Part 2: Introduce your partner to your group.
Take turns introducing your partners to the larger group. Everyone should introduce one person.

Part 3: Organize the information.
Imagine that you had to store all of this data in Python. How could you do it? A few challenges:
- You likely have multiple data types (ints, strings, and floats)
- Each question has a different type of answer
- Could you store all of this information for your group in a single variable? Would that be better or worse than creating individual variables?

Brainstorm with your larger group several ways to organize this information into variable(s) in Python.

Part 4: Manipulate the information.
This is a chance to test how well your ideas worked. Answer the following questions as a group:

- What if you wanted to list all of the members of your group alphabetically by First Name? By Last Name?
- What if you wanted to list the travel destinations in order of distance from Last Vegas?
- What if you wanted to find the month with the most birthdays and then list everyone in the group who has a birthday in that month?
- What if you needed to identify times that everyone in the group is available (based on their class schedules)?