Brainstorming worksheet, due Monday, February 26

This worksheet is to be used to hone the scope of the project you and your groupmates will be completing.

Part 1: Project Topic

1. Determine which of the three project types you would like to research.

2. Refine the scope of your project so that you can focus on specific populations instead of having a completely vague topic statement.

3. In the space below, write down a sentence or two that describes the population(s) that you would like to study.

Part 2: Data

1. Search on the internet for websites that have datasets relevant to the project topic that you found in Part 1.

2. Discuss with your groupmates which datasets are the most interesting to you.

3. Write down where you found your most promising datasets.

4. For one or two datasets that seem the most promising, write down a descriptive title of the dataset, and create a key that lists the variables as given in the source with descriptive names or explanations of what they are. For example, if the source lists "GDPPC", you might call it gross domestic product per capita, or GDP per capita if everyone in your group is comfortable with the term GDP.

5. If your dataset(s) have a very large number of variables, pick a small number to work with, up to a maximum of 10.

Part 3: What do you care about?

What's interesting about this collection of data? What are you curious about? Imagine other people who might use this data — what do they care about? Why is this data important for them? Use the space below to write down some key words or phrases. You should have between 10 and 20.

Part 4: Possible Questions

Based on what you know about the system, work as a group to generate ideas for different questions that you might be able to investigate with a model of the system. Try to identify questions that relate to different types of work (prediction, explanation, design). Think about questions that you might be able to investigate given the data that you have collected. You should have at least 10 different questions.

Part 5: Tractable/Interesting Questions

You've generated a bunch of possible questions. As a group, choose three that you think are particularly interesting, and write them here.

Part 6: Pre-Model Thinking

Now START thinking about what model you might build to answer each of these questions. Is it deterministic or stochastic? How might you create a representation (an abstraction) of the system in images? What might the model parameters be? This is just to get you started.

You are building a model FOR the specific question you are asking. A good model is one that is appropriate for the work you need it to do.

If you begin this process and realize that the question isn't all that tractable or interesting after all, it's fine to choose a different question instead.