Health and Nutrition Examination Survey

- **What is the problem you want to solve?**

Hypothesis:

Factors from daily living are related to the diagnosis of asthma.

Factors from daily living are related to the diagnosis of arthritis.

Factors from daily living are related to the diagnosis of nasal congestion from allergies.

A person's height-weight proportion at age 25 can predict future health conditions.

- **Who is your client and why do they care about this problem? In other words, what will your client do or decide based on your analysis that they wouldn't have done otherwise?**

  The clientele would range. It could be the everyday consumer and family member who wants to better their life, and extend it to professionals. A dietician may use these results to discuss the potential effects of dairy milk on particular medical conditions. A fitness or medical professional would find value in having this data to speak to how exercise and physical being can relate to conditions. There is a section that touches on chemical use for pesticides around the home that could get consumers thinking about what products they expose their dwelling to and those living in it. It may lead to a person wanting to do more research on conditions they suffer from, which could be alleviated.

- **Briefly outline how you'll solve this problem. Your approach may change later, but this is a good first step to get you thinking about a method and solution.**

  A dataset will be created that contains user sequence ID, combining results from the questionnaire.csv and the demographic.csv. Columns to include are listed above from the questionnaire. It is possible all 47 columns will be included from the demographics.

  The study will look at individuals with each condition; asthma, arthritis, and allergy nasal congestion.

  There can be connections with that alone based on demographics; age, country of birth, race, gender.

  The study will look for correlations or predictors from the questionnaire data used and each condition.

Report those
-who have been identified as having arthritis, their CreatinePhosphokinase and PlateletCount, in

addition to their results answering yes to at least 3 days of exercise per week.
-who have been identified as having asthma, connecting to their answers for the milk, being breast-fed, chemical pesticide use.
-who have been identified as having allergycongestion, connecting to their answers for the milk, being breast-fed, chemical pesticide use.

Look at the BMI at age 25. Does that correlate with any column?

- **What data are you using? How will you acquire the data?**

https://www.kaggle.com/cdc/national-health-and-nutrition-examination-survey#questionnaire.csv
https://www.kaggle.com/cdc/national-health-and-nutrition-examination-survey#demographic.csv

MCQ160A Has a doctor or other health professional ever told had arthritis ?
MCQ010 Has a doctor or other health professional ever told have asthma?
CSQ204 During past 12 months,any of the following.. frequent nasal congestion from allergies?
LBXPLTSI Platelet count (1000 cells/uL)
LBXSCK Creatine Phosphokinase(CPK) (IU/L)
PUQ100 In the past 7 days, were any chemical products used in home to control fleas, roaches, ants, termites, or other insects?
PUQ110 In the past 7 days, were any chemical products used in lawn or garden to kill weeds?
DBQ229 The next question is about regular milk use. A regular milk drinker is someone who uses any type of milk at least 5 times a week. Using this definition, which statement best describes {you/SP}?...
DBQ235B Now, I'm going to ask you how often {you/SP} drank milk at different times in {your/his/her} life. How often did {you/SP} drink any type of milk, including milk added to cereal when {you were/s/he was} a teenager between the ages of 13 and 17 years old? Would you say...
DBQ235C Now, I'm going to ask you how often {you/SP} drank milk at different times in {your/his/her} life. How often did {you/SP} drink any type of milk, including milk added to cereal when {you were/s/he was} a young adult between the ages of 18 and 35 years old? Would you say…
'DBQ010' : Was the participant breast fed?
PAQ677 On how many of the past 7 days, exercise or participate in physical activity for at least 20 minutes that made sweat and breathe hard, such as basketball, soccer, running, swimming laps, fast bicycling, fast dancing, or similar activities? this one would need to be converted to yes and no, if days equal >=3
PAQ678 On how many of the past 7 days did {you/SP} do exercises to strengthen or tone {your/his/her} muscles, such as push-ups, sit-ups, or weight lifting? this one would need to be converted to yes and no, if days equal >=3
PAQ706 During the past 7 days, on how many days {were you/was SP} physically active for a total of at least 60 minutes per day? Add up all the time {you/he/she} spent in any kind of physical activity that increased {your/his/her} heart rate and made {you/him/her} breathe hard

some of the time. this one would need to be converted to yes and no, if days equal >=3
WHD120 How much did {you/SP} weigh at age 25? [If you don't know {your/his/her} exact weight, please make your best guess.]
WHD130 How tall at age 25? [If you don't know {your/his/her} exact height, please make your best guess.]
BMI: Feature Generation a new column showing the proportion of WHD120:WHD130 column.

What are your deliverables? Typically, this includes code, a paper, or a slide deck.
Models to represent connections. Slide deck.