1. Team Members:
   1. Natalie Vallejo and Jonathan Young
2. Target Domain:
   1. The impact of COVID on key economic indicators as well as patient outcomes, hospitalizations, particularly given different demographics
3. English Questions (Format: questions, followed by bullet points that contain data)
   1. NOTES
      1. December 2019 was considered to be pre-COVID
      2. April 2020 was considered the initial peak time for COVID
   2. Analyze the trend in total unemployment rate at the peak periods of different COVID variants. Has COVID impacted the employment rate?
      1. i.1.a
   3. Analyze the trend in unemployment rate for workers 16 to 19 years of age and workers 20 years of age and over at the peak periods of different COVID variants. Has COVID disproportionately affected certain age groups in terms of employment?
      1. i.1.a
   4. Compare trends in unemployment rates of Asian, White, Black or African American, Hispanic at the peak periods of different COVID variants.
      1. i.1.a
   5. Compare trends in employment levels of the specific sectors of the economy to trends in COVID cases
      1. i.1.h
      2. ii.1
   6. How does the pandemic affect different sectors of industry in terms of GDP? Were some industries more clearly affected than others? If so, which ones?
      1. i.2
      2. ii.1 (for the purposes of finding a peak)
   7. Compare the total GDP for all industries in the first quarter of 2020 vs. the second quarter of 2020.
      1. i.3.a
   8. Do quarters with lower gross values of total real GDP correspond to peaks in COVID cases?
      1. i.1.h
   9. Do quarters with lower gross values GDP for certain service sectors, like healthcare services, correspond to peaks in COVID cases?
      1. ii.1
      2. i.1.h
   10. How did consumer prices for selected items, like medical care services, increase during the pandemic? Did they correlate with peaks?
       1. i.1.a
       2. ii.1
   11. How was unemployment of women affected (have to stay more with children) vs. men?
       1. i.1.a
   12. How were different races/ethnicities affected in employment (Hispanics and blacks work more in service sectors/manual labor) during the pandemic? Were these races also affected by COVID?
       1. i.1.a
       2. iii.1
   13. Which gender group was more likely to be affected by the pandemic? In terms of outcomes?
       1. Ii.4
       2. vi.4
   14. Which age group was more likely to be affected by the pandemic?
       1. ii.2
   15. Are the 65 and older population more prone to death or health complications due to the pandemic?
       1. ii.3
       2. vi.2
   16. Are certain races/ethnicities more prone to deaths or cases in the pandemic?
       1. iii.1
       2. iii.2
   17. Has COVID disproportionately affected the personal income of citizens in different regions?
       1. ix.1
       2. ix.2
   18. Analyze the trend in personal income of citizens at the peak periods of different COVID variants.
       1. ix.1
       2. ix.2
   19. Does a peak in COVID cases correspond to higher unemployment? And is there a direct correlation, or have industries adapted to COVID?
       1. ii.2
       2. i.1.a
       3. i.1.h
   20. Does vaccination decrease hospitalizations?
       1. vi.3
   21. Are states with high vaccination rates having low rates of COVID deaths and cases? (Pointing the effectiveness of vaccination in a certain direction)
       1. vi.3
       2. viii.3
   22. Do testing rates correlate with decreased hospitalizations, cases, or deaths?
       1. ii.2
       2. ii.3
       3. vii.1
   23. Which conditions contributed to COVID deaths?
       1. v.i

3b. Data

* + 1. **Key economic indicators in the time of COVID-19**
       1. <https://data.bls.gov/apps/covid-dashboard/home.htm>
          1. Civilian Unemployment Rate
          2. State Unemployment Rates Animated Map
          3. Reasons for Unemployment
          4. National Duration of Unemployment
          5. Employment-population ratios for demographic groups
          6. Employed part-time for economic and noneconomic reasons
          7. Job openings hires, and separations
          8. Nonfarm employment levels (by sector)
          9. Consumer Prices
       2. GDP data (By National, Industry, and State)
          1. <https://apps.bea.gov/iTable/?reqid=19&step=2&isuri=1&categories=survey>
          2. <https://apps.bea.gov/itable/?ReqID=70&step=1>
          3. <https://apps.bea.gov/iTable/?reqid=150&step=2&isuri=1&categories=gdpxind>
          4. <https://www.bea.gov/sites/default/files/2022-09/gdp2q22_3rd.xlsx>
    2. **COVID**
       1. <https://data.cdc.gov/Case-Surveillance/Weekly-United-States-COVID-19-Cases-and-Deaths-by-/pwn4-m3yp>
       2. <https://data.cdc.gov/NCHS/Provisional-COVID-19-Deaths-by-Week-Sex-and-Age/vsak-wrfu>
       3. <https://covid.cdc.gov/covid-data-tracker/#demographicsovertime>
    3. **RACE**
       1. <https://covidtracking.com/race/dashboard>
       2. <https://data.cdc.gov/NCHS/Provisional-COVID-19-Deaths-Distribution-of-Deaths/pj7m-y5uh>
    4. **GENDER**
       1. <https://www.genderscilab.org/gender-and-sex-in-covid19/#DataTable>
    5. **HEALTH CONDITIONS**
       1. <https://data.cdc.gov/NCHS/Conditions-Contributing-to-COVID-19-Deaths-by-Stat/hk9y-quqm>
    6. **HOSPITALIZATIONS**
       1. <https://healthdata.gov/Hospital/COVID-19-Reported-Patient-Impact-and-Hospital-Capa/g62h-syeh>
       2. <https://gis.cdc.gov/grasp/covidnet/covid19_5.html>
       3. <https://data.cdc.gov/Case-Surveillance/Rates-of-Laboratory-Confirmed-COVID-19-Hospitaliza/k3na-u7xf>
    7. **PCR TESTING**
       1. <https://healthdata.gov/dataset/COVID-19-Diagnostic-Laboratory-Testing-PCR-Testing/j8mb-icvb>
    8. **VACCINATION STATUS** 
       1. <https://data.cdc.gov/Public-Health-Surveillance/Rates-of-COVID-19-Cases-or-Deaths-by-Age-Group-and/3rge-nu2a>
       2. <https://data.cdc.gov/Vaccinations/Archive-COVID-19-Vaccination-and-Case-Trends-by-Ag/gxj9-t96f>
       3. <https://covid.cdc.gov/covid-data-tracker/#vaccinations_vacc-total-admin-rate-total>
    9. **PERSONAL INCOME** (By National and State)
       1. <https://apps.bea.gov/iTable/?reqid=19&step=2&isuri=1&categories=survey#eyJhcHBpZCI6MTksInN0ZXBzIjpbMSwyXSwiZGF0YSI6W1siY2F0ZWdvcmllcyIsIlN1cnZleSJdXX0=>
       2. <https://apps.bea.gov/itable/?ReqID=70&step=1>
       3. <https://www.bea.gov/news/2021/personal-income-and-outlays-september-2021>
       4. <https://www.bea.gov/news/2022/personal-income-and-outlays-september-2022>
       5. <https://www.bea.gov/news/2020/personal-income-and-outlays-september-2020>

1. Relational Database
   1. Schema in SQL Format - schema.sql
   2. Schema in Relational Model - schema.pdf
2. SQL Queries - See Queries.sql
3. Loading Data
   1. All of the data will come from downloading from the links listed in the data section 3b above.
   2. These .csv files will be loaded into a python script that isolates the column required to process, while also outputting the script required to input the data into the database according to the defined schema.
4. PHP files and HTML interface
   1. A drop-down menu of different questions with different PHP files and different inputs
5. Specialized/Advanced topics in Database Design
   1. Object-oriented or distributed database design
   2. Advanced GUI form interface using AWS or Microsoft PowerBI

Tables - [Sample Tables](https://docs.google.com/spreadsheets/d/1COmB7ww7oP_t1E2O8rRvN84rEZHB7IVyQc5svcjSrJk/edit?usp=sharing)