Project One Data Analysis

**Goal:** The Project goal is to determine whether or not the COVID epidemic has caused permanent or long-term effects on the US. As the availability and sale of homes are used as a base benchmark for economic stability and/or growth we will be comparing housing price data with data pertaining to positive Covid cases and deaths.

**Reasoning**: To develop this analysis the team focused on the comparing the sales price of homes in the US with COVID cases in the same area. The prices of homes were determined to be a reliable economic indicator as home sales are reliable signs of the buying power of an average American family household. With the pandemic resulted in almost all business models to freeze operations during the lockdown, their data would be considered irregular and unusable for our purpose.

**Questions:**

1. Has the long-term purchasing ability of Americans been affected by the severity of the localized pandemic environment of each location and region?
2. In what way has the prices of homes been affected and what that may indicate for the economy?
3. Are there similar patterns in the data for Covid cases/deaths and Housing sales?

**Expectations:** Due to the pandemic causing many businesses to halt in-door/ in-person operations a large number of businesses had to halt operations. These events caused many individuals to find themselves either unemployed or on furlough resulting in the loss of income. With the loss of income and due to the virus’ high infection rates despite vaccine efforts, it was expected that many family households would view the future to be unpredictable and thus act to conserve what funds they may have. This expectation should be reflected in the comparison data; as cases and deaths increase in a county and city, the fear of infection and local lockdown would affect the consumer’s faith in their income and savings resulting in fewer families spending their funds on a new home.

**Data results:**

COVID: Starting from March 2020 there has been a steady increase of deaths within each county but having one major sudden spike of cases occur at different times. This shows that the virus has a steady fatality rate despite vaccine and lockdown efforts and that the number of cases are high in each month as the pandemic continues.

Houses: Data since January 2020 shows that the average of home prices have steadily been increasing little to no signs of slowing for Austin and Los Angeles, with New York being the one exception. In the case of New York, there was a sharp decrease in house prices from April 2021 to October 2021.

**Analysis:**

In the three major counties: Austin, Los Angeles and New York, the prices of homes have continued to increase during the pandemic despite increasing infections and deaths. On the contrary to expectations, prices of homes continued to increase as deaths and cases increased. Closer look at the data shows that instead of having an inverse relationship as expected; Housing prices and covid cases/deaths had a parallel relationship. When cases began to rapidly increase on June 2020 and December 2021, the prices of homes also began to increase. This resulted in both data graphs to have a positive growth with similar starting points of increase.

**Results:** The expected results of the housing data having an inverse relationship to covid deaths/cases data have been shown to be incorrect. Where the expected data pattern was to see housing prices decrease whenever cases/deaths increase, instead the data shown to be a positive correlation between sharp increases of cases and deaths to the prices of homes resulting in a steady increase in home prices from 2020 to 2022.

**Conclusion:** A possible theory would be that when cases increased, the counties resumed lockdowns in the cities and incentivized young families to move out of urban centers and purchase homes where they will have more space. Another possible theory is the lockdowns led to many individuals either finding or have their current work spaces transition to remote work; leading these individuals to purchase new homes that will accommodate the new required work space.