State the region and the domain category that your data sets are about (e.g., Chaohu, China and sports or athletics).

Maryland, United States and economic activity or measures(mainly housing)

Create a research question about the domain category and region that you identified.

What is the correlation between the unemployment rate in Maryland and the accessiblity to housing in Maryland?

Provide at least two links to publicly accessible datasets. These could be links to files such as CSV or Excel files, or links to websites which might have data in tabular form, such as Wikipedia pages.

https://fred.stlouisfed.org/series/MDRVAC
https://fred.stlouisfed.org/series/U5UNEM5MD
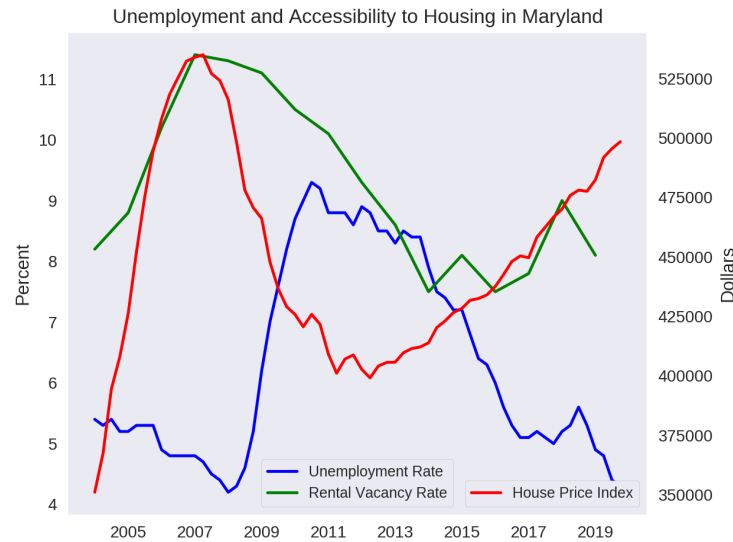https://fred.stlouisfed.org/series/MDSTHPI
CSV files can be downloaded from these links
Upload an image which addresses your research question.

In addition to addressing your research question, this visual should address Cairo's principles of truthfulness, functionality, beauty, and insightfulness.

Unemployment and Accessibility to Housing in Maryland

Provide a short (1-2 paragraphs) justification of how your visual addresses your research question.

This visualization was concerned with answering the question of if the unemployment rate and the accessibility to housing in Maryland are correlated. The data is from the Federal Reserve Bank of St Louis which has economic data for every state. The data was exported from this site and cleaned so that all the data is from 2003 to 2019 so that the viewer can identify trends over a long period of time. Three sets of data were used: Rental Vacancy(%), Home Price Index($), and Unemployment rate(%). The research question was "What is the correlation between the unemployment rate in Maryland and the accessiblity to housing in Maryland?". Both HPI and rental vacancy are used to measure accessibility to housing.

The plot indicates that the unemployment rate started around 5.5% in 2003, dropped to its lowest in 2008, then rised fast in 2009 to 9.3%, and stayed around this number until 2013, after which it slowly dropped down. The HPI and Rental Vacancy rate however, followed a trend opposite to this. When the unemployment rate was at one of its lowest points in 2008, HPI and Rental Vacancy were at their peaks. Similarly, when unemployment was at

its highest, HPI was at its lowest, and Rental Vacancy was rapidly dropping. This indicates that there is a correlation between accessibility to housing and the unemployment rate, which means that the visual addresses the research question.

As this assignment is for the whole course, you must incorporate and defend the principles discussed in the first week, specifically, Cairo's principles of truth, beauty, function, and insight.

For each of the following prompts, please provide a response that links each principle to one or more elements of your visual.

- Describe your design choices for your visual in regards to Cairo's principle of **truthfulness**.
- Describe your design choices for your visual in regards to Cairo's principle of **beauty**.
- Describe your design choices for your visual in regards to Cairo's principle of **functionality**.
- Describe your design choices for your visual in regards to Cairo's principle of **insightfulness**.

The visual leverages the guidelines of effective visual design outlined in Cairo's principles of beauty, truthfulness, functionality, and insightfulness. It is truthful as the data is cleaned, summarized, and manipulated in a way so that it isn't misleading me or the audience. The visual is functional as it should be able to be comprehended by the audience and gets the message across. The visual is beautiful as it uses colors to make the graph clearer and has a high data-ink ratio. It is insightful as observations can be made from the

visual such as the accessibility to housing is correlated with the unemployment rate in Maryland