Project Requirements

Dataset Requirements

- **Be open source**
  - Requirement met for all 4 original datasets (including json file)
- **Come from an authentic/authoritative source**
  - Median household income by state: US Census Bureau
  - Median House price by state: Zillow
  - Yearly Minimum Wage: Kaggle, United States Department of Labor
- **Include non-anonymized column names**
  - Requirement met for all 3 original datasets
- **Be no more than 3 years old**
  - Median household income by state: 1984-2022
  - Median House price by state: 2008-2023
  - Yearly Minimum Wage: 1968-2020 (manually found data for 2021 and 2022)
- **Contain at least 2 continuous variables (excluding index or ID variables, dates, years, etc.)**
  - Requirement met for all 3 original datasets
- **Contain at least 2 categorical variables (excluding index or ID variables, dates, years, etc.)**
  - Every Dataset included States and Years, some included counties and regions.
- **Contain at least 1,500 rows**
  - Median household income by state: 577 x 207
  - Median House price by state: 52 x 83
  - Yearly Minimum Wage: 2862 x 15
- **Include a geographical component with at least 2 different values**
  - All Datasets included States, some included cities and regions

---

Analysis Criteria

- **Exploratory analysis through visualizations (scatterplots, correlation heatmaps, pair plots, and categorical plots)**
  - Requirement met with Merged dataset
- **Geospatial analysis using a shapefile**
  - Requirement met with Geospatial Complete Dataset and json file
- **Regression analysis**
  - Requirement met with Merged dataset
- **Cluster analysis**
  - Requirement met with Merged dataset

- **Time-series analysis**
    - Requirement met with Merged dataset
- **Analysis narrative and final results (presented in your dashboard)**
    - Narrative and Results constructed in Tableau and Excel

Dashboard Requirements

- **Be designed with a use case in mind (answering key guidance questions)**
    - Questions:
    - Is the average cost of houses in the US increasing at a greater rate than the average household income from 2008-2022? For Minimum Wage?
- **Be created in Tableau Public**
- https://public.tableau.com/views/EconomicImbalance-HousingAffordabilityintheUS/Story1?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link
- **Be interactive**
    - Requirement met
- **Adhere to visual design best practices**
    - Requirement met
- **Include an introduction page that describes the project (data and purpose)**
    - Requirement met
- **Include relevant result(s) of initial visual exploratory analysis**
    - Requirement met
- **Include an explanation for how the results of the exploratory analysis resulted in defining research questions and/or hypotheses**
    - The datasets found only covered 2008-2022 consistently- this is the timeline that was decided by data availability
    - Slide '2008-2022 House Price vs Income' in Tableau covers that this research project covers these years due to the problem being on the rise for decades, but its visibility (and data availability) surged post the 2008 economic downturn
- **Contain a geospatial component**
    - Requirement met
- **Address the defined questions/hypotheses using advanced analytical techniques**
    - Requirement met
- **Include a results summary page explaining how the results do (or don't!) address your initial research questions/hypotheses**
    - Requirement met
- **Include details on the limitations of the project**
    - Requirement met on Conclusion page
- **Include a proposal of the next steps for further analysis.**
    - Requirement met on Conclusion page

Github Requirements

- **Your Python code**
  - Requirement met
- **A logical folder structure**
  - Requirement met
- **Folders and files that follow industry-standard naming conventions**
  - Requirement met
- **Portfolio-ready Jupyter scripts for every task in the Achievement (complete with code comments, organized structure, and clean, functioning code)**
  - Requirement met
- **A README file containing:**
  - **A description of the project**
  - **Details of the data source(s)**
  - **Research questions**
  - **Cleaning procedures (from Exercise 6.1)**
  - **A link to your Tableau dashboard**