ASSIGNMENT 1
DAV

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DATASET INFORMATION

BERKELEY DATASET

I have selected GLOBAL LAND TEMPERATURE DATASET BY CITY that is US.

ENERGY CENSUS AND ECONOMIC DATA US

I took this dataset from kaggle. The purpose of this data set is to allow exploration between various types of data that is commonly collected by the US government across the states and the USA as a whole. The data set consists of three different types of data:

- Census and Geographic Data;
- Energy Data and
- Economic Data.

https://www.kaggle.com/datasets/lislejoem/us_energy_census_gdp_10-14

US INFLATION RATE

This dataset contains inflation rates for the US. The inflation rate is a significant economic indicator, offering insights into the health of the economy and the purchasing power of a currency. The CPI is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.
The dataset has two columns:
Date: The end of the respective month (in MM-DD-YYYY format).
Value: The Consumer Price Index (CPI) at the end of the respective month.

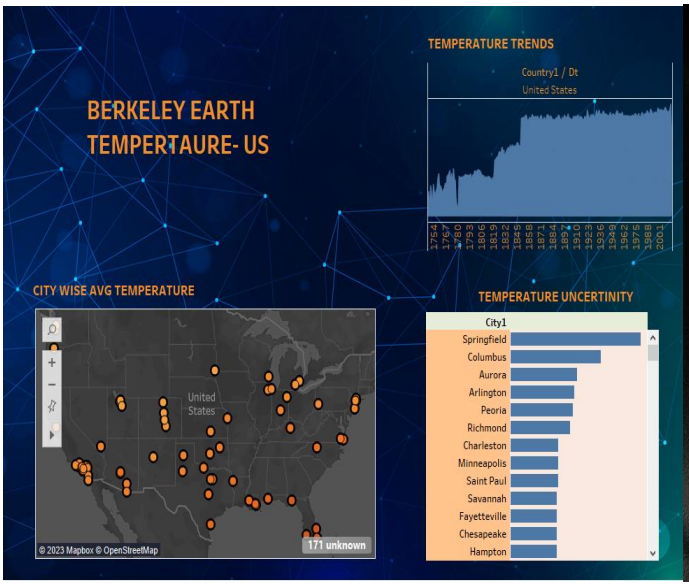
Data is provided by the Federal Reserve Economic Data (FRED), Federal Reserve Bank of St. Louis.

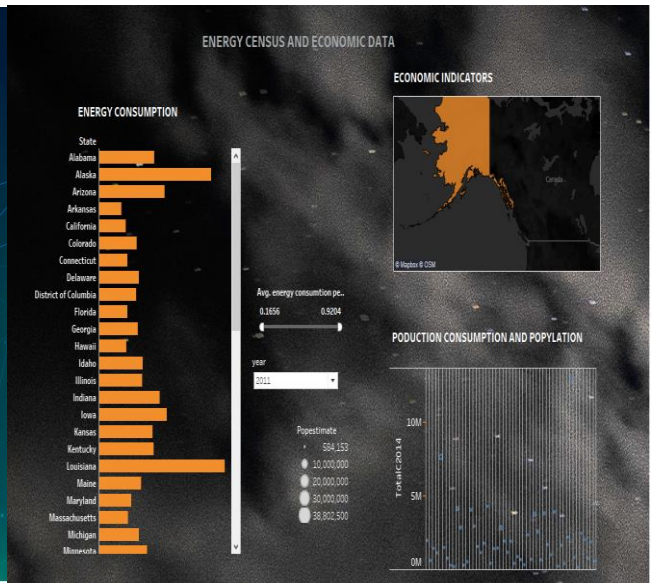
https://www.kaggle.com/datasets/pavankrishnanarne/us-inflation-dataset-1947-present

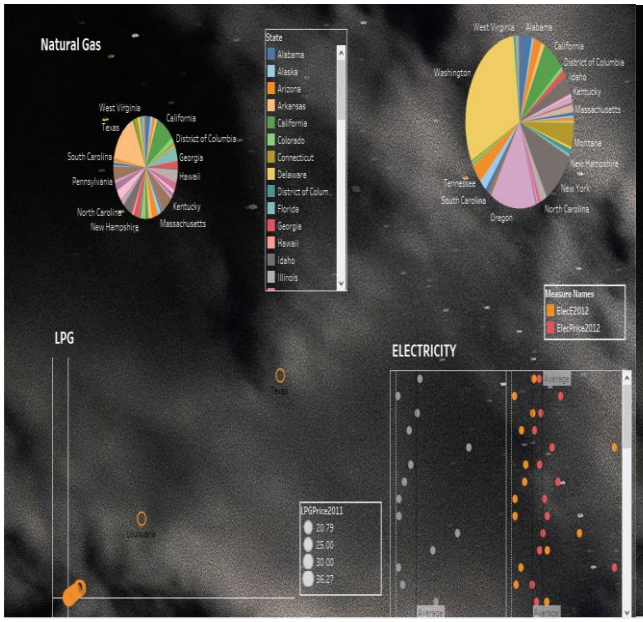
DASHBOARDS

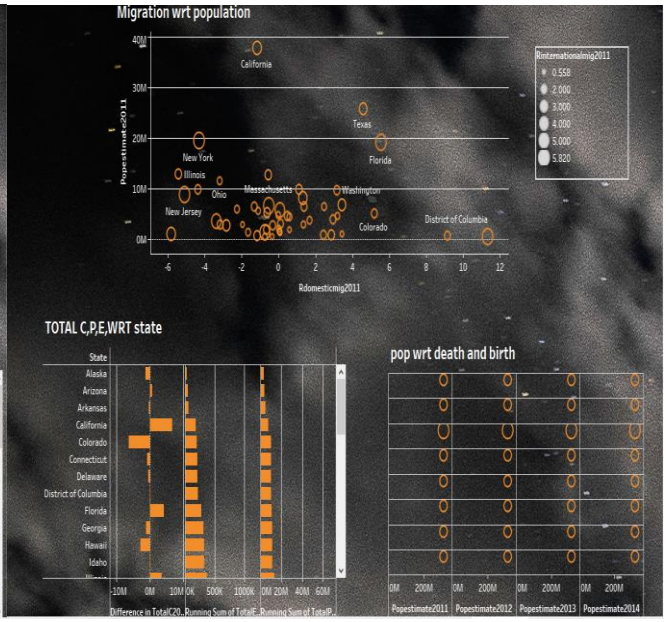
I have created total of 5 dash boards. From berkely dataset I created 2 dash boards, from energy census and economic data; I created 2 dashboards and from inflation dataset; I created 1 dash board.

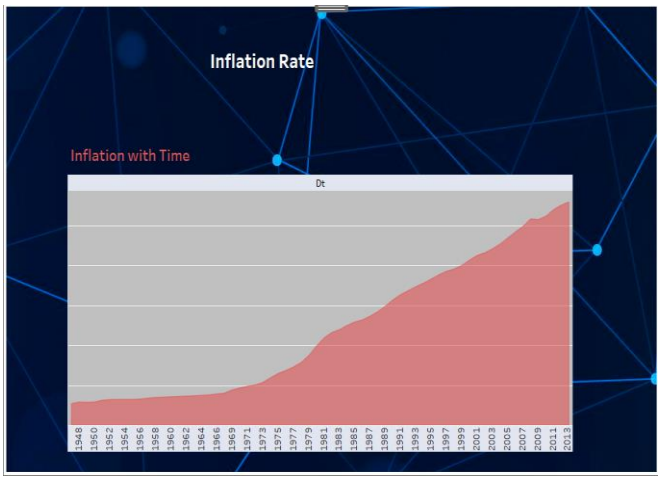
The dash board created are below :











ANALYSIS PROCESS

For my EDA, I used a library i.e. python profiling which shows all about the dataset. The link is below for all datasets:
file:///C:/Users/Lenovo/Downloads/US_inflation_rates.html
file:///C:/Users/Lenovo/Downloads/TemperatureData.html
file:///C:/Users/Lenovo/Downloads/EneryCensus_EconomicData.html

Following are the **insights** that I have shown for my dataset :
Data Overview, Descriptive Statistics, Data Types, Missing Values, Data Distribution, Unique Values, Text Analysis, Correlation.
I have also done EDA manually by using pandas, matplotlib and klib library.

VISUAL STORIES

1- BERKELEY DATASET AND ENERGY CENSUS AND ECONOMIC DATA US :

- The insights that I created is examining temperature data alongside population estimates and migration rates can provide a comprehensive understanding of how climate influences population movements and demographic trends.

- Observing how temperature correlates with population density. Regions with milder climates may have higher population densities due to more favorable living condition. Analyzing temperature data alongside population estimates can reveal patterns of migration. People may move to regions with more comfortable climates, leading to population growth in those areas.
- We can see the trend lines and it gives us on how total production and total consumption with expenditure relates to temperature years wise. If the temperature is too high then consumption increases.
- Temperature itself doesn't determine the population estimate but climate affects population estimates in specific regions. This is helpful in POPULATION DYNAMICS.
- Helping to identify where climate action and energy policy should be prioritized and where strategies for reducing carbon emissions and improving energy efficiency are most needed. Example energy production in city having temperature more will be noticed.
- Temperature affect the use of different energy sources. Higher temperatures lead to an increased demand for cooling, potentially resulting in higher electricity consumption, which may be sourced from fossil fuels. coal might be more common in colder regions due to heating needs, while biomass be prevalent in warmer regions and with GDP it tells economic development. High consumption of coal and fossil fuels in regions with lower GDP suggests a reliance on cheaper but more carbon-intensive energy sources. This could lead to higher carbon emissions and environmental concerns.
- Relation to temperature and GDP offer valuable insights into the interplay between economic development, climate, energy choices, and environmental impact. These insights can inform energy policy decisions, sustainable development strategies, and efforts to mitigate climate change.

2- BERKELEY DATASET AND INFLATION DATA US :

- Variations in Temperature contribute to fluctuations in the cost of living. This graph shows that as year increases the inflation also increases with temperature.

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