FOREX DATA ANALYSIS

SUBHASHINI NATARAJAN

OBJECTIVE

The objective of the project is to demonstrate the ability to ingest data from various data sources like flat files, website and an API, merge them together and perform data exploration and visualization. Foreign exchange rate analysis is the subject area for the project.

DATA SOURCES

The flat file data required for the project is obtained from Kaggle forex data. The website source for foreign exchange rates is, https://www.calculator.net/currency-calculator.html. The API, https://open.er-api.com/v6/latest/USD is used for the API source.

PROCESS

The flat file data is first ingested into Pandas dataframe. The column names are renamed to reflect the country/currency to USD. The records with no data for each country is dropped. The data type for the currencies are converted into float data type. The data type for the field Time series is modified to date time. The latest record of timeseries data is then obtained.

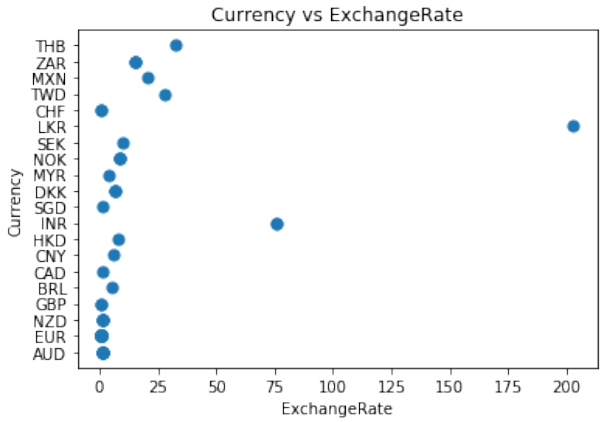
For the web data, the url is opened and read. The html contents are stored in a field. The tag with the table of forex data is extracted and split. The contents are then stored in a data frame with four fields – Currency, Exchange rate and countryname.

For the API data, the response is read into a field. The API response is posted. The response json is then parsed, and rates variable are stored in a field. The rates are then populated into a dataframe.

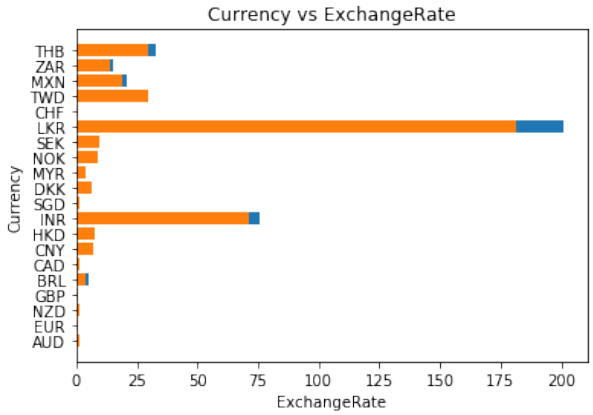
Data from multiple sources are then merged together, stored in a database and visualizations are plot.

DATA VISUALIZATION

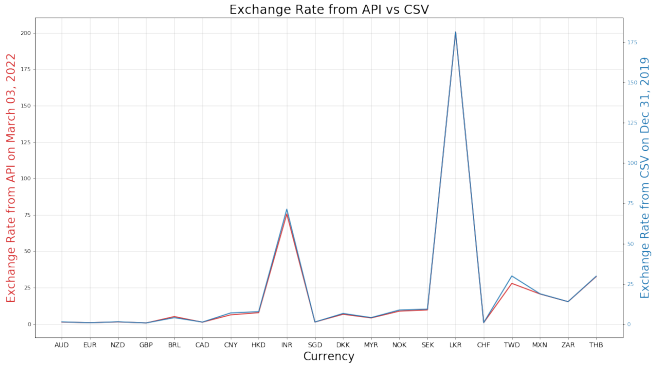
Scatterplot



Bar chart



Dual Axis chart



Line plot with markers