

## Table Design (Python)

**Table 1**

- Date
- Indicator [Inflation, Interest, Unemployment, GDP, S&P 500]
- Value
- Unit [...]

**Table 2**

- Date
- Commodity [Oil, Gas, Gold, Copper, Aluminium, Wheat, Corn, Cotton, Sugar, Coffee]
- Price
- Category [Energy, Precious Metal, Industrial Metal, Agriculture]
- Unit [...]

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## Data Cleaning and Transformation

**Table 1**

- Created date\_df to use as standard for merging data. End of month for last 30 years.
- Created dictionary with the list of indicators as keys and symbols as values.
- Reset index for every df collected.
- Converted 'date' column to datetime.
- Changed dates for each df collected to match date\_df.
- Added indicator column for each df.
- Appended all df to macro\_data.
- Concat all macro\_data into macro\_df
- Converted 'value' to numeric.
- Sorted macro\_df by date.
- Created macro\_unique which is list of commodities.
- Created full\_index which is date\_df and macro\_unique merged to create complete timeline regardless of if value is null.
- Merged full\_index with macro\_df as macro\_merged.
- Added column 'unit' which gives units for each indicator.

**Table 2**

- Created date\_df to use as standard for merging data. End of month for last 30 years.
- Created dictionary with the list of commodities as keys and symbols as values.
- Reset index for every df collected.
- Converted 'date' column to datetime.
- Changed dates for each df collected to match date\_df.
- Added commodity column for each df.
- Appended all df to commodities\_data.
- Concat all commodities\_data into commodities\_df
- Converted 'price' to numeric.
- Sorted commodities\_df by date.
- Created commodity\_df which is list of commodities.
- Created full\_index which is date\_df and commodity\_df merged to create complete timeline regardless of if price is null.
- Merged full\_index with commodities\_df as commodities\_merged.
- Added column 'category' which groups 'commodity to [energy, industrial metal, agriculture, precious metal]
- Added column 'unit' which gives units for each commodity.