4. Time-series plot of NIFTY Index data

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Goal

- Live access NSE market data using nsepython. Acquire and compare the relative changes of a few NIFTY index data over the last 9 yrs.

Details

- Acquire and create a visual comparison of percent changes of the following 3 index funds over the last 9 years.

    NIFTY 50

    NIFTY BANK

    NIFTY IT

Data Acquisition

- Install the nsepython package and use its index_total_returns for the above funds (symbols of the funds are as written above) to acquire historical index data for the following period (See https://unofficed.com/nse-python/documentation/ for details).

    Start Date: "01-May-2014"

    End Date: "10-Sept-2023"

Data Preparation and Cleaning Component

- For every acquired time-series index data, Compute the relative per cent change in the index return value from the start date.
- It will require you to apply the following calculation at every date:

$$\text{Percentage Change} = \frac{(\text{Return at the date of interest} - \text{Return at the start date})}{\text{Return at the start date}} \times 100$$

- Combine the updated index data to create a single data frame. Rename the columns to distinguish the relative per cent change data for the three index funds from each other.

Data Visualization

- Use Plotly Express or Seaborn to create line plots of on a single chart.

Sample Image