EXPERIMENT 2

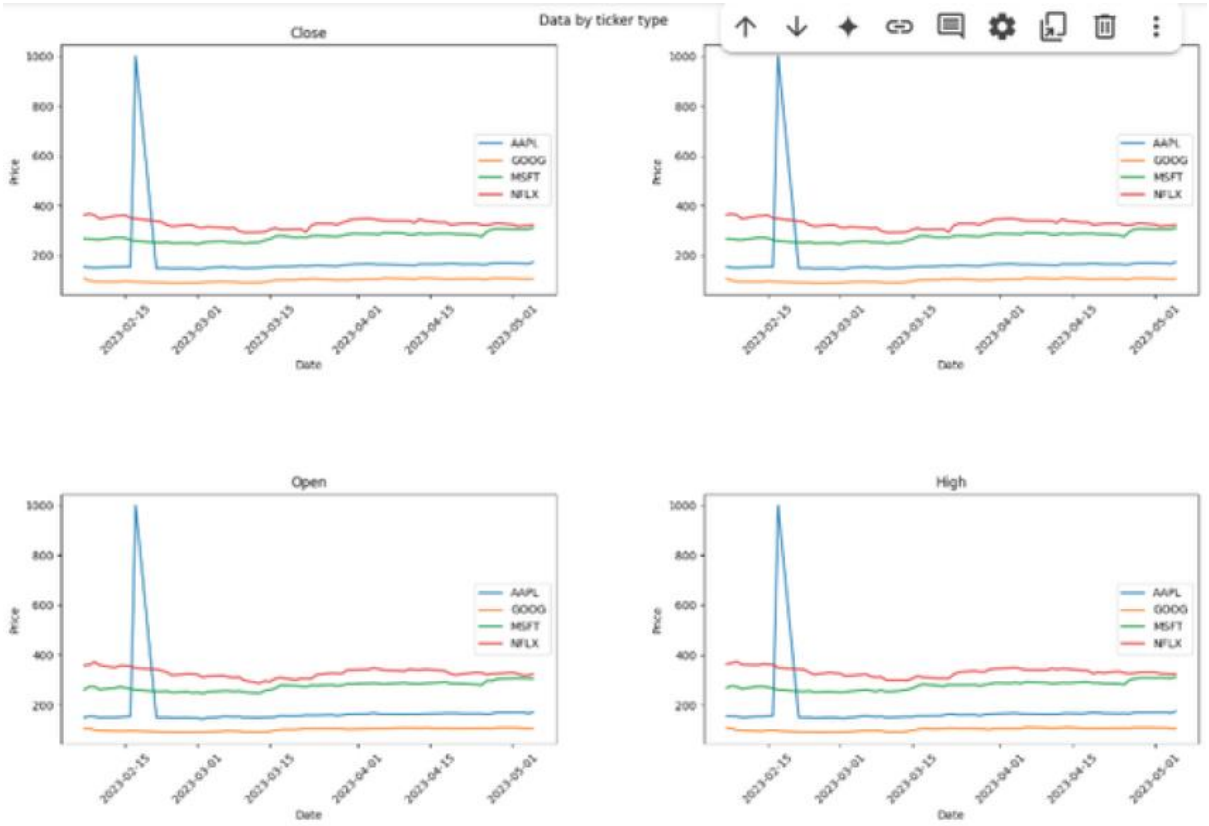
IMPLEMENTING A PROGRAM FOR VISUALIZING TIME SERIES DATA

AIM: To implement a program for visualizing time series data.

PROCEDURE:

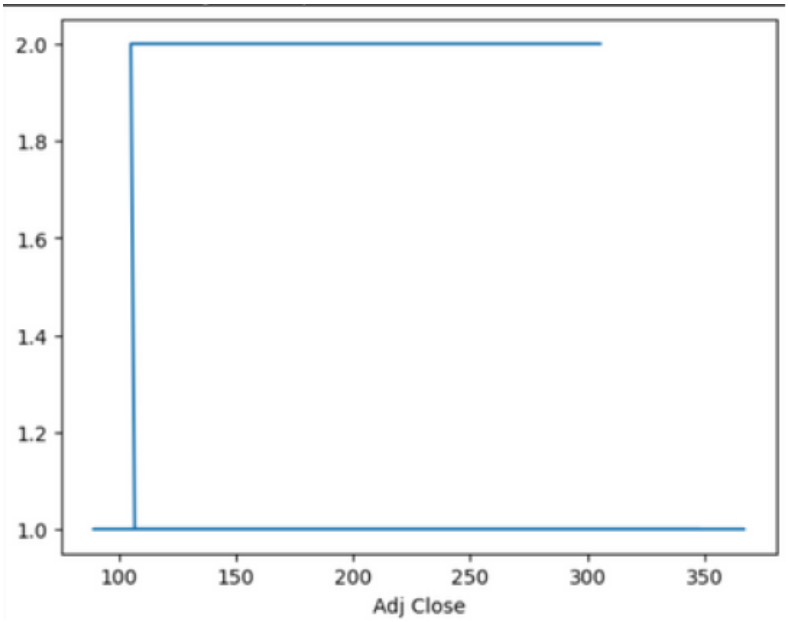
1. Visualizing the stocks prices over time

```
fig.suptitle('Data by ticker type')cols = ['Close', 'Adj Close', 'Open', 'High', 'Low',
'Volume']for i, col in enumerate(cols): row = i // 2 col = i % 2 for ticker, data in
df.groupby('Ticker'): axs[row, col].plot(data['Date'], data[cols[i]], label=ticker)
axs[row, col].set_title(cols[i]) axs[row, col].set_xlabel('Date') axs[row,
col].set_ylabel('Price') axs[row, col].legend(loc='right') axs[row,
col].tick_params(axis='x',
rotation=45)plt.tight_layout()plt.subplots_adjust(wspace=0.3,
hspace=0.8)plt.show()
```



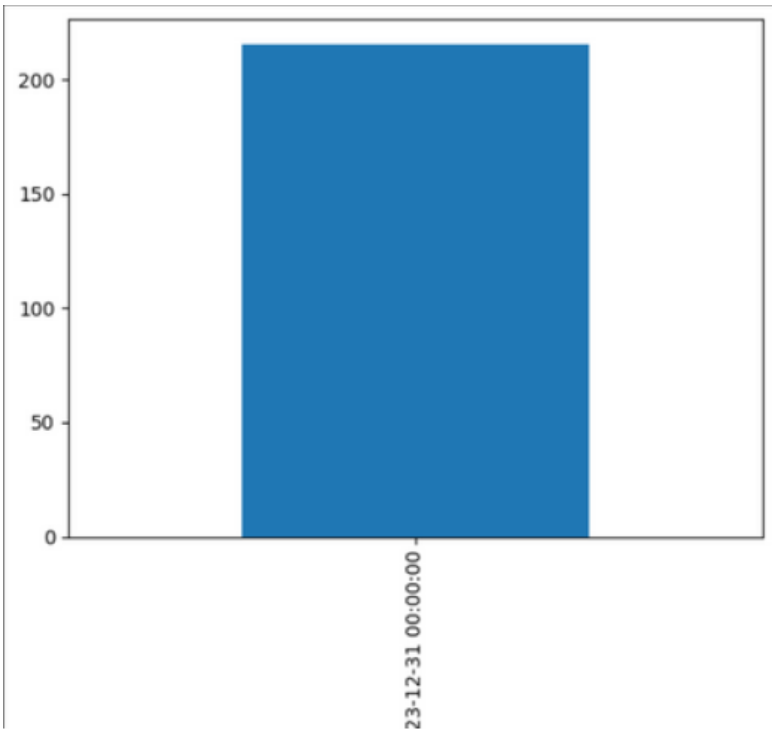
2. Visualizing through line plot.

df['Adj Close'].value_counts().sort_values().plot.line()

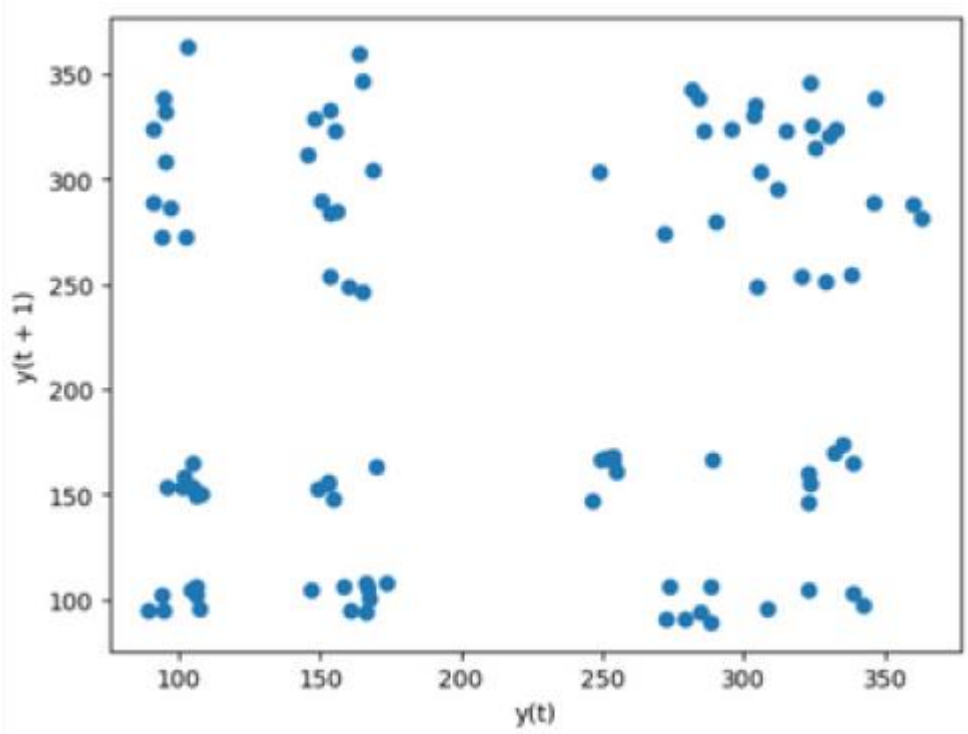


3. Visualizing using bar plot

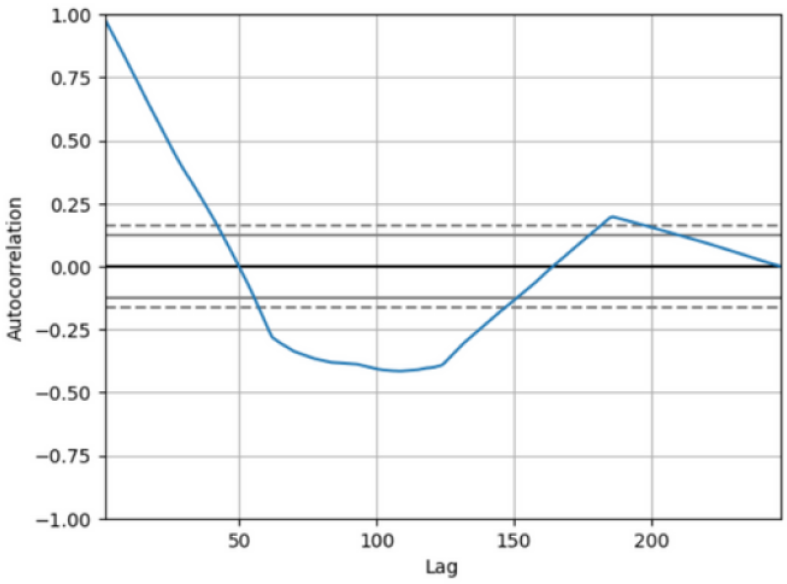
df['Close'].resample('Y').mean().plot.bar()



4. Visualizing using bar plot
   from pandas.plotting import lag_plotlag_plot(df['Close'].sample(100))



5. Visualizing using autocorrelation_plot.



RESULT: The program to implement a program for visualizing time series data is successfully implemented.