In [197…
```
import pandas as pd
import yfinance as yf
from sqlalchemy import create_engine
import json

# create_engine('postgresql://myuser:mypassword@localhost:5432/mydatabase')
# engine = create_engine('postgresql://postgres:postgres@localhost:6432/postgres
# engine = create_engine('postgresql://postgres:postgres@localhost:6432/demo')
```

In [87]:
```
# engine.connect()
```

In [363…
```
stocks_names = [
    'MSFT',
    'AAPL',
    'ORCL',
    'AMZN',
    'BRK-B',
    'NVDA',
    'INTC',
    'AMD',
    'TSLA',
    'GOOG',
    'META',
    'JPM', # JPMorgan
    'ADBE',
    'QCOM',
    'CRM', # Salesforce
    'BLK', # Blackrock
    'LLY',
    'JNJ',
    'PFE',
    'ABBV',
    'CSCO',
    'TXN',
    'BAC', # Bank of America

]

data = pd.DataFrame()
div_data = pd.DataFrame()
info_data = pd.DataFrame()
fin_data = pd.DataFrame()
```

In [365…
```
def get_history(ticker, period='1y', interval='1d', start=None, end=None):
    df = yf.Ticker(ticker).history(period=period, interval=interval, start=start
    df['ticker'] = ticker
    df.rename(columns={
        'Date':'date', 'Open':'open', 'High':'high', 'Low':'low',
        'Close':'close', 'Volume':'volume',
    }, inplace=True)
    df['date'] = pd.to_datetime(df['date'], errors='coerce').dt.date
    df.drop(['Dividends','Stock Splits'],axis=1, inplace=True)
    return df

def get_dividents(ticker):
    df = yf.Ticker(ticker).get_dividends().reset_index().rename(columns={'Date':
    df['date'] = pd.to_datetime(df['date'], errors='coerce').dt.date
```

```
    df['ticker'] = ticker
    return df

def get_info(ticker):
    return pd.DataFrame.from_dict({'info':  [json.dumps(yf.Ticker(ticker).info)]

def get_balance_sheet(ticker):
    df = yf.Ticker(ticker).balance_sheet.T.reset_index().rename(columns={'index'
    df.columns = df.columns.str.replace(' ', '_').str.lower()
    df['ticker'] = ticker
    return df
```

In [123…
```
for stock in stocks_names:
    data = pd.concat([data, get_history(stock, start='2000-01-01')])
```

In [161…
```
for stock in stocks_names:
    div_data = pd.concat([div_data, get_dividents(stock)])
```

In [251…
```
for stock in stocks_names:
    info_data = pd.concat([info_data, get_info(stock)])
```

In [367…
```
for stock in stocks_names:
    fin_data = pd.concat([fin_data, get_balance_sheet(stock)])
```

In [385…
```
for col in fin_data.columns:
    if col == 'date':
        print(f'    , {col} DATE NOT NULL')
    elif col == 'ticker':
        print(f'    , {col} VARCHAR(20) NOT NULL')
    else:
        print(f'    , {col} NUMERIC')
```

```
                , date DATE NOT NULL
                , ordinary_shares_number NUMERIC
                , share_issued NUMERIC
                , net_debt NUMERIC
                , total_debt NUMERIC
                , tangible_book_value NUMERIC
                , invested_capital NUMERIC
                , working_capital NUMERIC
                , net_tangible_assets NUMERIC
                , capital_lease_obligations NUMERIC
                , common_stock_equity NUMERIC
                , total_capitalization NUMERIC
                , total_equity_gross_minority_interest NUMERIC
                , stockholders_equity NUMERIC
                , gains_losses_not_affecting_retained_earnings NUMERIC
                , other_equity_adjustments NUMERIC
                , retained_earnings NUMERIC
                , capital_stock NUMERIC
                , common_stock NUMERIC
                , total_liabilities_net_minority_interest NUMERIC
                , total_non_current_liabilities_net_minority_interest NUMERIC
                , other_non_current_liabilities NUMERIC
                , tradeand_other_payables_non_current NUMERIC
                , non_current_deferred_liabilities NUMERIC
                , non_current_deferred_revenue NUMERIC
                , non_current_deferred_taxes_liabilities NUMERIC
                , long_term_debt_and_capital_lease_obligation NUMERIC
                , long_term_capital_lease_obligation NUMERIC
                , long_term_debt NUMERIC
                , current_liabilities NUMERIC
                , other_current_liabilities NUMERIC
                , current_deferred_liabilities NUMERIC
                , current_deferred_revenue NUMERIC
                , current_debt_and_capital_lease_obligation NUMERIC
                , current_debt NUMERIC
                , pensionand_other_post_retirement_benefit_plans_current NUMERIC
                , payables_and_accrued_expenses NUMERIC
                , payables NUMERIC
                , total_tax_payable NUMERIC
                , income_tax_payable NUMERIC
                , accounts_payable NUMERIC
                , total_assets NUMERIC
                , total_non_current_assets NUMERIC
                , other_non_current_assets NUMERIC
                , investments_and_advances NUMERIC
                , long_term_equity_investment NUMERIC
                , goodwill_and_other_intangible_assets NUMERIC
                , other_intangible_assets NUMERIC
                , goodwill NUMERIC
                , net_ppe NUMERIC
                , accumulated_depreciation NUMERIC
                , gross_ppe NUMERIC
                , leases NUMERIC
                , other_properties NUMERIC
                , machinery_furniture_equipment NUMERIC
                , buildings_and_improvements NUMERIC
                , land_and_improvements NUMERIC
                , properties NUMERIC
                , current_assets NUMERIC
                , other_current_assets NUMERIC
```

```
                , hedging_assets_current NUMERIC
                , inventory NUMERIC
                , finished_goods NUMERIC
                , work_in_process NUMERIC
                , raw_materials NUMERIC
                , receivables NUMERIC
                , accounts_receivable NUMERIC
                , allowance_for_doubtful_accounts_receivable NUMERIC
                , gross_accounts_receivable NUMERIC
                , cash_cash_equivalents_and_short_term_investments NUMERIC
                , other_short_term_investments NUMERIC
                , cash_and_cash_equivalents NUMERIC
                , cash_equivalents NUMERIC
                , cash_financial NUMERIC
                , ticker VARCHAR(20) NOT NULL
                , treasury_shares_number NUMERIC
                , current_capital_lease_obligation NUMERIC
                , other_current_borrowings NUMERIC
                , commercial_paper NUMERIC
                , non_current_deferred_assets NUMERIC
                , non_current_deferred_taxes_assets NUMERIC
                , other_investments NUMERIC
                , investmentin_financial_assets NUMERIC
                , available_for_sale_securities NUMERIC
                , other_receivables NUMERIC
                , minority_interest NUMERIC
                , preferred_stock NUMERIC
                , derivative_product_liabilities NUMERIC
                , construction_in_progress NUMERIC
                , prepaid_assets NUMERIC
                , treasury_stock NUMERIC
                , additional_paid_in_capital NUMERIC
                , current_accrued_expenses NUMERIC
                , inventories_adjustments_allowances NUMERIC
                , other_inventories NUMERIC
                , investments_in_other_ventures_under_equity_method NUMERIC
                , receivables_adjustments_allowances NUMERIC
                , loans_receivable NUMERIC
                , employee_benefits NUMERIC
                , current_provisions NUMERIC
                , interest_payable NUMERIC
                , other_payable NUMERIC
                , non_current_prepaid_assets NUMERIC
                , preferred_securities_outside_stock_equity NUMERIC
                , financial_assets NUMERIC
                , trading_securities NUMERIC
                , assets_held_for_sale_current NUMERIC
                , dueto_related_parties_current NUMERIC
                , duefrom_related_parties_current NUMERIC
                , non_current_accrued_expenses NUMERIC
                , long_term_provisions NUMERIC
                , line_of_credit NUMERIC
                , taxes_receivable NUMERIC
                , preferred_shares_number NUMERIC
                , preferred_stock_equity NUMERIC
                , held_to_maturity_securities NUMERIC
                , cash_cash_equivalents_and_federal_funds_sold NUMERIC
                , liabilities_heldfor_sale_non_current NUMERIC
                , current_deferred_assets NUMERIC
                , financial_assets_designatedas_fair_value_through_profitor_loss_total NUMERI
```

```
C
    , restricted_cash NUMERIC
    , other_equity_interest NUMERIC
    , non_current_pension_and_other_postretirement_benefit_plans NUMERIC
    , dividends_payable NUMERIC
    , foreign_currency_translation_adjustments NUMERIC
    , minimum_pension_liabilities NUMERIC
    , unrealized_gain_loss NUMERIC
    , non_current_note_receivables NUMERIC
    , non_current_accounts_receivable NUMERIC
    , defined_pension_benefit NUMERIC
```

In [377…

```
print(str(fin_data.columns.tolist()).replace('\'', '').replace(',', ',\n'))
```

```
[date,
 ordinary_shares_number,
 share_issued,
 net_debt,
 total_debt,
 tangible_book_value,
 invested_capital,
 working_capital,
 net_tangible_assets,
 capital_lease_obligations,
 common_stock_equity,
 total_capitalization,
 total_equity_gross_minority_interest,
 stockholders_equity,
 gains_losses_not_affecting_retained_earnings,
 other_equity_adjustments,
 retained_earnings,
 capital_stock,
 common_stock,
 total_liabilities_net_minority_interest,
 total_non_current_liabilities_net_minority_interest,
 other_non_current_liabilities,
 tradeand_other_payables_non_current,
 non_current_deferred_liabilities,
 non_current_deferred_revenue,
 non_current_deferred_taxes_liabilities,
 long_term_debt_and_capital_lease_obligation,
 long_term_capital_lease_obligation,
 long_term_debt,
 current_liabilities,
 other_current_liabilities,
 current_deferred_liabilities,
 current_deferred_revenue,
 current_debt_and_capital_lease_obligation,
 current_debt,
 pensionand_other_post_retirement_benefit_plans_current,
 payables_and_accrued_expenses,
 payables,
 total_tax_payable,
 income_tax_payable,
 accounts_payable,
 total_assets,
 total_non_current_assets,
 other_non_current_assets,
 investments_and_advances,
 long_term_equity_investment,
 goodwill_and_other_intangible_assets,
 other_intangible_assets,
 goodwill,
 net_ppe,
 accumulated_depreciation,
 gross_ppe,
 leases,
 other_properties,
 machinery_furniture_equipment,
 buildings_and_improvements,
 land_and_improvements,
 properties,
 current_assets,
 other_current_assets,
```

```
hedging_assets_current,
inventory,
finished_goods,
work_in_process,
raw_materials,
receivables,
accounts_receivable,
allowance_for_doubtful_accounts_receivable,
gross_accounts_receivable,
cash_cash_equivalents_and_short_term_investments,
other_short_term_investments,
cash_and_cash_equivalents,
cash_equivalents,
cash_financial,
ticker,
treasury_shares_number,
current_capital_lease_obligation,
other_current_borrowings,
commercial_paper,
non_current_deferred_assets,
non_current_deferred_taxes_assets,
other_investments,
investmentin_financial_assets,
available_for_sale_securities,
other_receivables,
minority_interest,
preferred_stock,
derivative_product_liabilities,
construction_in_progress,
prepaid_assets,
treasury_stock,
additional_paid_in_capital,
current_accrued_expenses,
inventories_adjustments_allowances,
other_inventories,
investments_in_other_ventures_under_equity_method,
receivables_adjustments_allowances,
loans_receivable,
employee_benefits,
current_provisions,
interest_payable,
other_payable,
non_current_prepaid_assets,
preferred_securities_outside_stock_equity,
financial_assets,
trading_securities,
assets_held_for_sale_current,
dueto_related_parties_current,
duefrom_related_parties_current,
non_current_accrued_expenses,
long_term_provisions,
line_of_credit,
taxes_receivable,
preferred_shares_number,
preferred_stock_equity,
held_to_maturity_securities,
cash_cash_equivalents_and_federal_funds_sold,
liabilities_heldfor_sale_non_current,
current_deferred_assets,
financial_assets_designatedas_fair_value_through_profitor_loss_total,
```

```
restricted_cash,
other_equity_interest,
non_current_pension_and_other_postretirement_benefit_plans,
dividends_payable,
foreign_currency_translation_adjustments,
minimum_pension_liabilities,
unrealized_gain_loss,
non_current_note_receivables,
non_current_accounts_receivable,
defined_pension_benefit]
```

In [127…
```
data.to_csv('stg_stock_history.csv', index=False, encoding='utf8')
```

In [163…
```
div_data.to_csv('stg_stock_dividends_history.csv', index=False, encoding='utf8')
```

In [255…
```
info_data.to_csv('stg_stock_info.csv', index=False, encoding='utf8')
```

In [381…
```
fin_data.to_csv('stg_stock_balance_sheet.csv', index=False, encoding='utf8')
```

In [429…
```
table_name = 'dds.ticker_balance_sheet'
years = [2000 + i for i in range(26)]
full_sql = ""

for year in years:
    full_sql += f"""CREATE TABLE {table_name}_{year} PARTITION OF {table_name} F
print(full_sql)
```

```
CREATE TABLE dds.ticker_balance_sheet_2000 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2000) ;
CREATE TABLE dds.ticker_balance_sheet_2001 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2001) ;
CREATE TABLE dds.ticker_balance_sheet_2002 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2002) ;
CREATE TABLE dds.ticker_balance_sheet_2003 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2003) ;
CREATE TABLE dds.ticker_balance_sheet_2004 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2004) ;
CREATE TABLE dds.ticker_balance_sheet_2005 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2005) ;
CREATE TABLE dds.ticker_balance_sheet_2006 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2006) ;
CREATE TABLE dds.ticker_balance_sheet_2007 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2007) ;
CREATE TABLE dds.ticker_balance_sheet_2008 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2008) ;
CREATE TABLE dds.ticker_balance_sheet_2009 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2009) ;
CREATE TABLE dds.ticker_balance_sheet_2010 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2010) ;
CREATE TABLE dds.ticker_balance_sheet_2011 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2011) ;
CREATE TABLE dds.ticker_balance_sheet_2012 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2012) ;
CREATE TABLE dds.ticker_balance_sheet_2013 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2013) ;
CREATE TABLE dds.ticker_balance_sheet_2014 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2014) ;
CREATE TABLE dds.ticker_balance_sheet_2015 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2015) ;
CREATE TABLE dds.ticker_balance_sheet_2016 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2016) ;
CREATE TABLE dds.ticker_balance_sheet_2017 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2017) ;
CREATE TABLE dds.ticker_balance_sheet_2018 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2018) ;
CREATE TABLE dds.ticker_balance_sheet_2019 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2019) ;
CREATE TABLE dds.ticker_balance_sheet_2020 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2020) ;
CREATE TABLE dds.ticker_balance_sheet_2021 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2021) ;
CREATE TABLE dds.ticker_balance_sheet_2022 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2022) ;
CREATE TABLE dds.ticker_balance_sheet_2023 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2023) ;
CREATE TABLE dds.ticker_balance_sheet_2024 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2024) ;
CREATE TABLE dds.ticker_balance_sheet_2025 PARTITION OF dds.ticker_balance_sheet
FOR VALUES IN (2025) ;
```

In [ ]:

```
table_name = 'dds.ticker_dividends_history'
years = [2000 + i for i in range(26)]
full_sql = ""

for year in years:
    full_sql += f"""
```

```
        CREATE TABLE {table_name}_{year} PARTITION OF {table_name} FOR VALUES {ye
print(full_sql)
```