

Assignment 4

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In [65]: from tiingo import TiingoClient
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from datetime import date
import warnings
warnings.filterwarnings('ignore')
from dateutil.relativedelta import relativedelta
config = {}

config['session'] = True

config['api_key'] = "110ee73e29ec4269f49eb85cfb4b976ab8e73361"

client = TiingoClient(config)
```

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In [44]: def download_financial_data(ticker):
    fin_data = client.get_ticker_price(ticker,
                                      fmt='csv',
                                      startDate = date.today() - relativedelta(years=1),
                                      endDate = date.today(),
                                      frequency = 'daily')

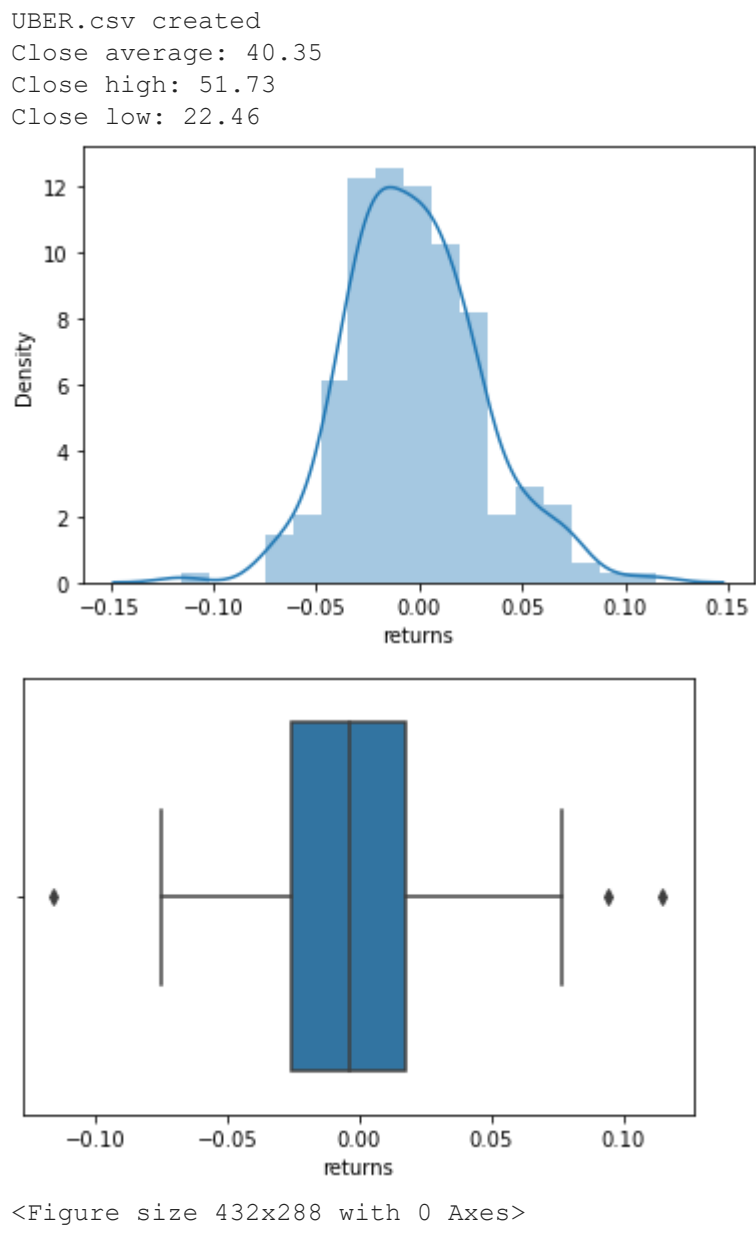
    file_name = f"{ticker}.csv"
    with open(file_name, 'w') as outfile:
        outfile.write(fin_data)
    print(f'{ticker}.csv created')
    return pd.read_csv(f"{ticker}.csv")
```

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In [53]: def data_summary(financial_data):
    financial_data['returns'] = financial_data['close'].pct_change(1)
    financial_data = financial_data.dropna()
    fin_array = financial_data.to_numpy()
    close_avg = round(np.mean(fin_array[:,1]),2)
    close_high = np.amax(fin_array[:,1])
    close_low = np.amin(fin_array[:,1])
    print(f"Close average: {close_avg}\nClose high: {close_high}\nClose low: {close_low}")
    return financial_data
```

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In [77]: def returns_analysis(financial_data):
    f = sns.distplot(financial_data['returns'])
    plt.figure()
    g = sns.boxplot(financial_data['returns'],orient='h')
    plt.figure()
```

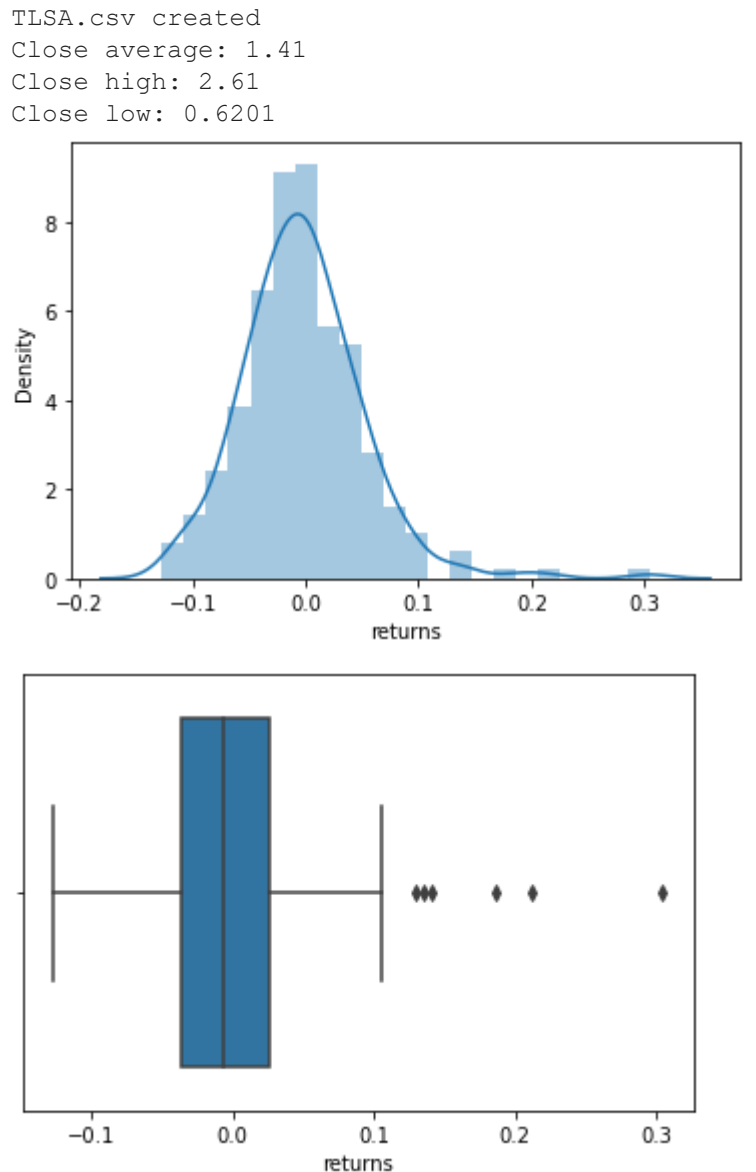
```
In [80]: def main_function(ticker):
    df = download_financial_data(ticker)
    fin_df = data_summary(df)
    returns_analysis(fin_df)
```

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In [81]: main_function("UBER")
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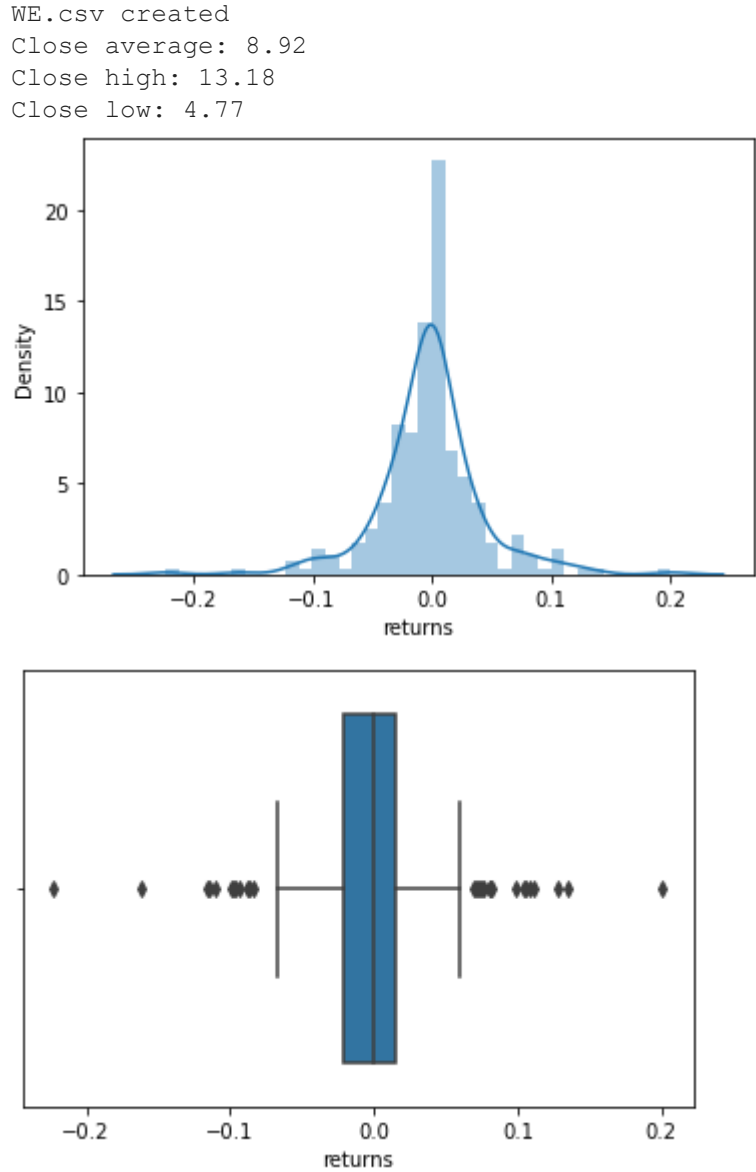
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In [82]: main_function("TLSA")
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In [83]: main_function("WE")
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