main

December 24, 2023

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```
import pandas as pd
import matplotlib.pyplot as plt
import yfinance as yf
import datetime as dt
import os
from matplotlib.backends.backend_pdf import PdfPages

#Create directory to store today's plots
_today = dt.datetime.today().strftime('%Y-%m-%d')
directory = f'/Users/talhajamal/Desktop/Code/Daily_Market_Update/data/{_today}'

# Create the directory if it does not exist
if not os.path.exists(directory):
    os.makedirs(directory)

# Get SP500 Tickers
sp500 = pd.read_csv('/Users/talhajamal/Desktop/Code/Daily_Market_Update/data/
 ↪sp500.csv')
sp500_tickers = ','.join(sp500['Symbol']).replace(',',' ')

# 1 Year Data
data = yf.download(sp500_tickers, period='2y')

# Performance Metrics
performance_metrics = {
    '1d': data['Adj Close'].pct_change(fill_method=None).tail(1) * 100,
    '1w': data['Adj Close'].pct_change(fill_method=None, periods=5).tail(1) *␣
 ↪100,
    '1m': data['Adj Close'].pct_change(fill_method=None, periods=21).tail(1) *␣
 ↪100,
    '1y': data['Adj Close'].pct_change(fill_method=None, periods=252).tail(1) *␣
 ↪100
}

# Find top 10 performing stocks for each period
top_performers = {period: metric.iloc[0].nlargest(10) for period, metric in␣
 ↪performance_metrics.items()}
```

```
# df for each period
one_day_performance = top_performers['1d']
one_week_performance = top_performers['1w']
one_month_performance = top_performers['1m']
one_year_performance = top_performers['1y']
```

```
/Users/talhajamal/Desktop/Code/Daily_Market_Update/data/2023-12-24
```

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one_day = one_day_performance.reset_index()
one_day.columns = ['Ticker', '1D Return']
one_day
```

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	Ticker	1D Return
0	ANSS	18.082863
1	MRNA	4.091702
2	ALB	3.190099
3	ALLE	2.528250
4	BMY	2.009369
5	INTC	1.954117
6	INCY	1.880369
7	RVTY	1.843794
8	EXPD	1.768379
9	AMGN	1.729144

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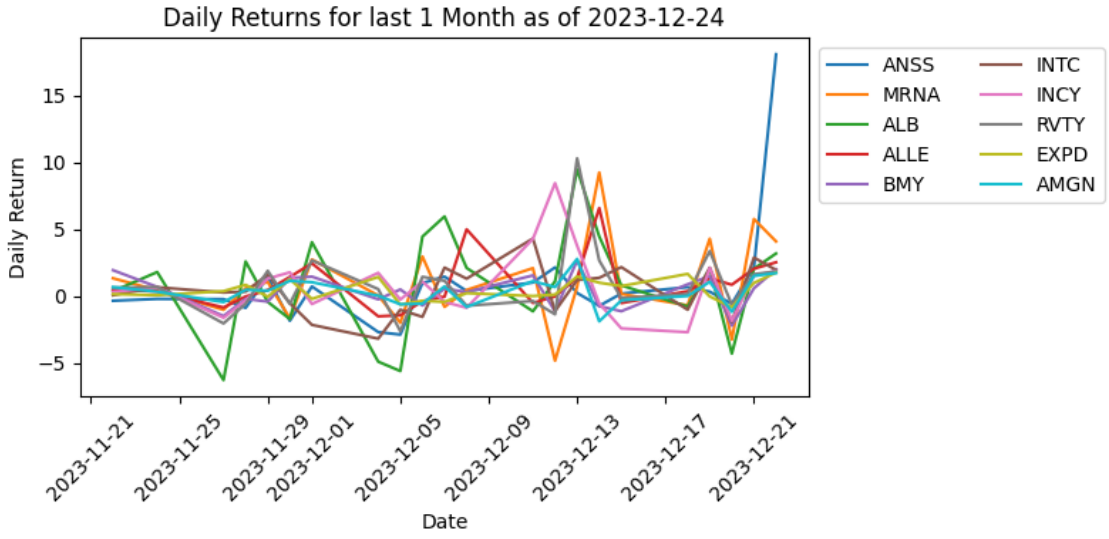
```
# Plot of best performing stocks over 1 Day
plt.figure(figsize=(8,4))
for ticker, ret in one_day_performance.items():
    #Calculate Daily Return for last month
    plt.plot(data['Adj Close'][ticker].pct_change().tail(22) * 100,␣
 ↪label=ticker)
plt.title('Daily Returns for last 1 Month as of '+_today)
plt.xlabel('Date')
plt.xticks(rotation=45)
plt.ylabel('Daily Return')
plt.legend(loc='upper left', ncol=2, bbox_to_anchor=(1,1))
plt.tight_layout()
_filename = '1D_performance.png'
_full_path = os.path.join(directory, _filename)
plt.savefig(_full_path)
plt.show()
```



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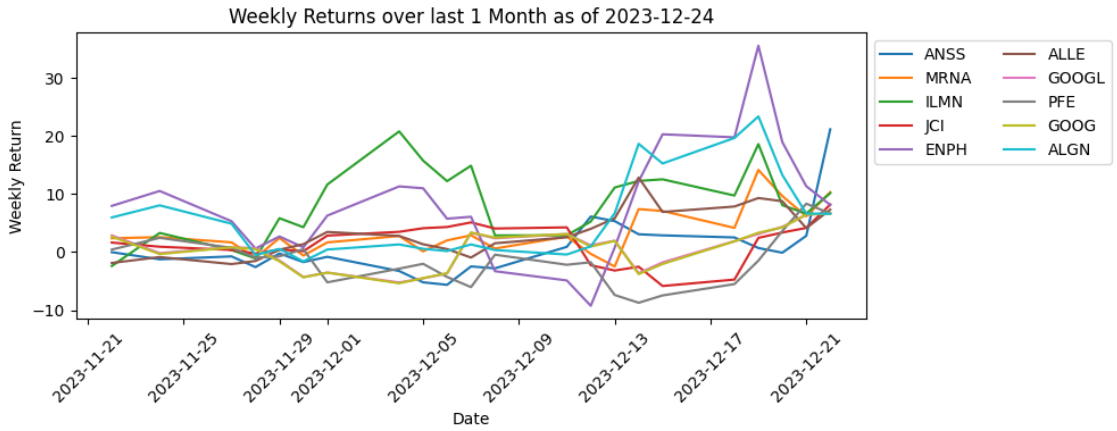
```
# Plot of best performing stocks over 1 Week
plt.figure(figsize=(10,4))
for ticker, ret in one_week_performance.items():
    print(ticker, ret)
    plt.plot(data['Adj Close'][ticker].pct_change(periods=5).tail(22) * 100,␣
 ↪label=ticker)
plt.title('Weekly Returns over last 1 Month as of ' + _today)
plt.xlabel('Date')
plt.xticks(rotation=45)
plt.ylabel('Weekly Return')
plt.legend(loc='upper left', ncol=2, bbox_to_anchor=(1,1))
plt.tight_layout()
_filename = '1W_performance.png'
_full_path = os.path.join(directory, _filename)
plt.savefig(_full_path)
plt.show()
```

```
ANSS 21.156127358910037
MRNA 10.324377436188193
ILMN 10.149489914042364
JCI 8.199853478958175
ENPH 8.12621648887526
ALLE 7.317908738234302
GOOGL 6.704373288420795
PFE 6.646641057245595
GOOG 6.634791636122106
ALGN 6.611505812922003
```



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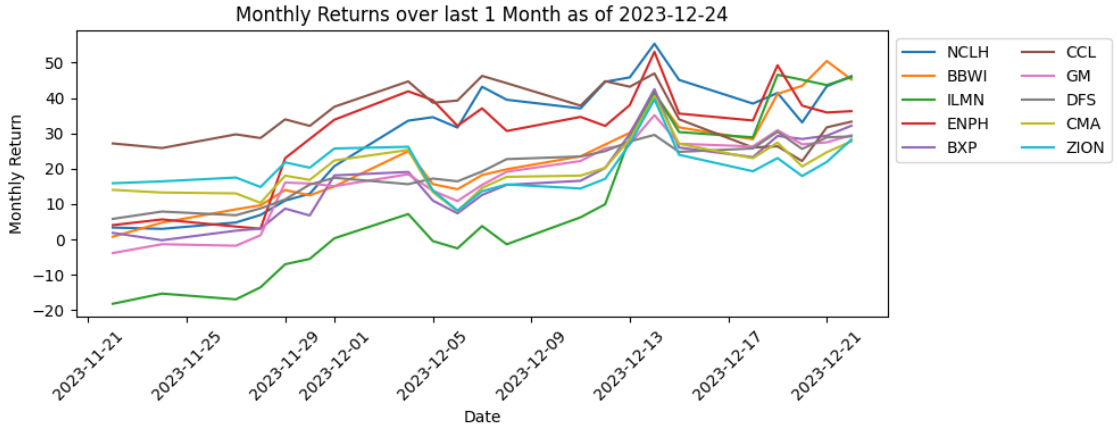
```
# Plot of best performing stocks over 1 Month
plt.figure(figsize=(10,4))
for ticker, ret in one_month_performance.items():
    print(ticker, ret)
    plt.plot(data['Adj Close'][ticker].pct_change(periods=22).tail(22) * 100,␣
 ↪label=ticker)
plt.title('Monthly Returns over last 1 Month as of '+_today)
plt.xlabel('Date')
plt.xticks(rotation=45)
plt.ylabel('Monthly Return')
plt.legend(loc='upper left', ncol=2, bbox_to_anchor=(1,1))
plt.tight_layout()
_filename = '1M_performance.png'
_full_path = os.path.join(directory, _filename)
plt.savefig(_full_path)
plt.show()
```

```
NCLH 45.587215170989694
BBWI 45.52515793438978
ILMN 43.20785284446627
ENPH 33.72256444516255
BXP 31.289372633525538
CCL 30.82239084894478
GM 28.551174518230592
DFS 28.356651204944928
CMA 28.141767256543847
ZION 27.86980585618668
```



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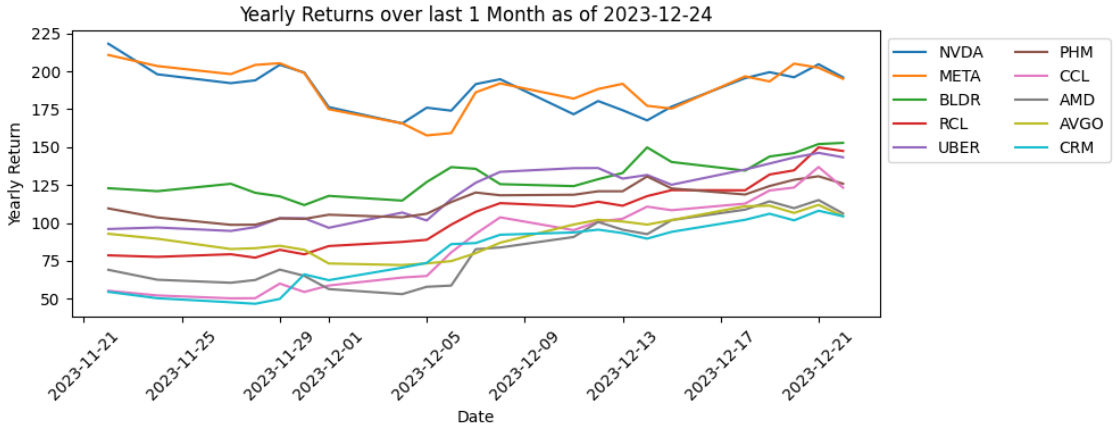
```
# Plot of best performing stocks over 1 Year
plt.figure(figsize=(10,4))
for ticker, ret in one_year_performance.items():
    print(ticker, ret)
    plt.plot(data['Adj Close'][ticker].pct_change(periods=252).tail(22) * 100,␣
 ↪label=ticker)
plt.title('Yearly Returns over last 1 Month as of '+_today)
plt.xlabel('Date')
plt.xticks(rotation=45)
plt.ylabel('Yearly Return')
plt.legend(loc='upper left', ncol=2, bbox_to_anchor=(1,1))
plt.tight_layout()
_filename = '1Y_performance.png'
_full_path = os.path.join(directory, _filename)
plt.savefig(_full_path)
plt.show()
```

```
NVDA 196.0527323693486
META 195.08183729526502
BLDR 152.819352434538
RCL 147.46188634529113
UBER 143.33595267850106
PHM 125.87009677331436
CCL 123.23114772460943
AMD 106.26478350184021
AVGO 104.46445553507732
CRM 104.40521112811867
```


Yearly Returns over last 1 Month as of 2023-12-24
Yearly Return
Date
225
200
175
150
125
100
75
50
2023-11-21
2023-11-25
2023-11-29
2023-12-01
2023-12-05
2023-12-09
2023-12-13
2023-12-17
2023-12-21
NVDA
META
BLDR
RCL
UBER
PHM
CCL
AMD
AVGO
CRM