

Matplotlib Tutorial (Part 8): Plotting Time Series Data

```
In [1]: import pandas as pd
from datetime import datetime, timedelta
from matplotlib import pyplot as plt
from matplotlib import dates as mpl_dates

plt.style.use('seaborn')

dates = [
    datetime(2019, 5, 24),
    datetime(2019, 5, 25),
    datetime(2019, 5, 26),
    datetime(2019, 5, 27),
    datetime(2019, 5, 28),
    datetime(2019, 5, 29),
    datetime(2019, 5, 30)
]

y = [0, 1, 3, 4, 6, 5, 7]

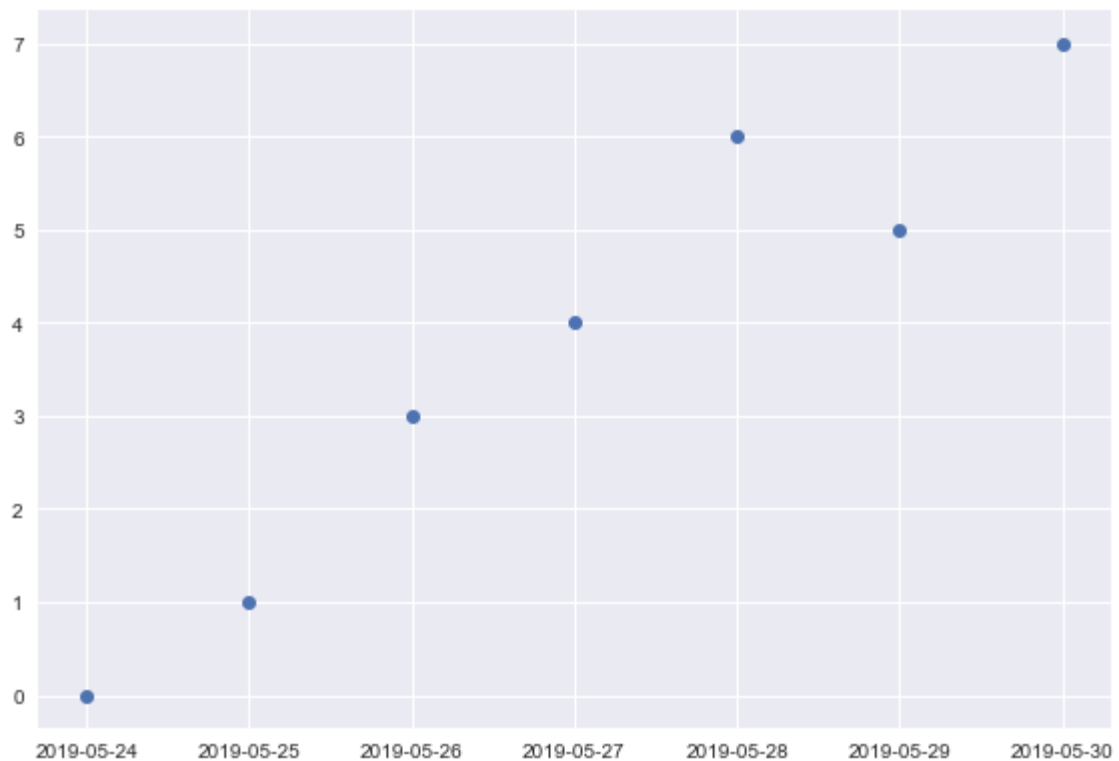
plt.plot_date(dates, y)

# data = pd.read_csv('data.csv')
# price_date = data['Date']
# price_close = data['Close']

# plt.title('Bitcoin Prices')
# plt.xlabel('Date')
# plt.ylabel('Closing Price')

plt.tight_layout()

plt.show()
```



```
In [2]: import pandas as pd
from datetime import datetime, timedelta
from matplotlib import pyplot as plt
from matplotlib import dates as mpl_dates

plt.style.use('seaborn')

dates = [
    datetime(2019, 5, 24),
    datetime(2019, 5, 25),
    datetime(2019, 5, 26),
    datetime(2019, 5, 27),
    datetime(2019, 5, 28),
    datetime(2019, 5, 29),
    datetime(2019, 5, 30)
]

y = [0, 1, 3, 4, 6, 5, 7]

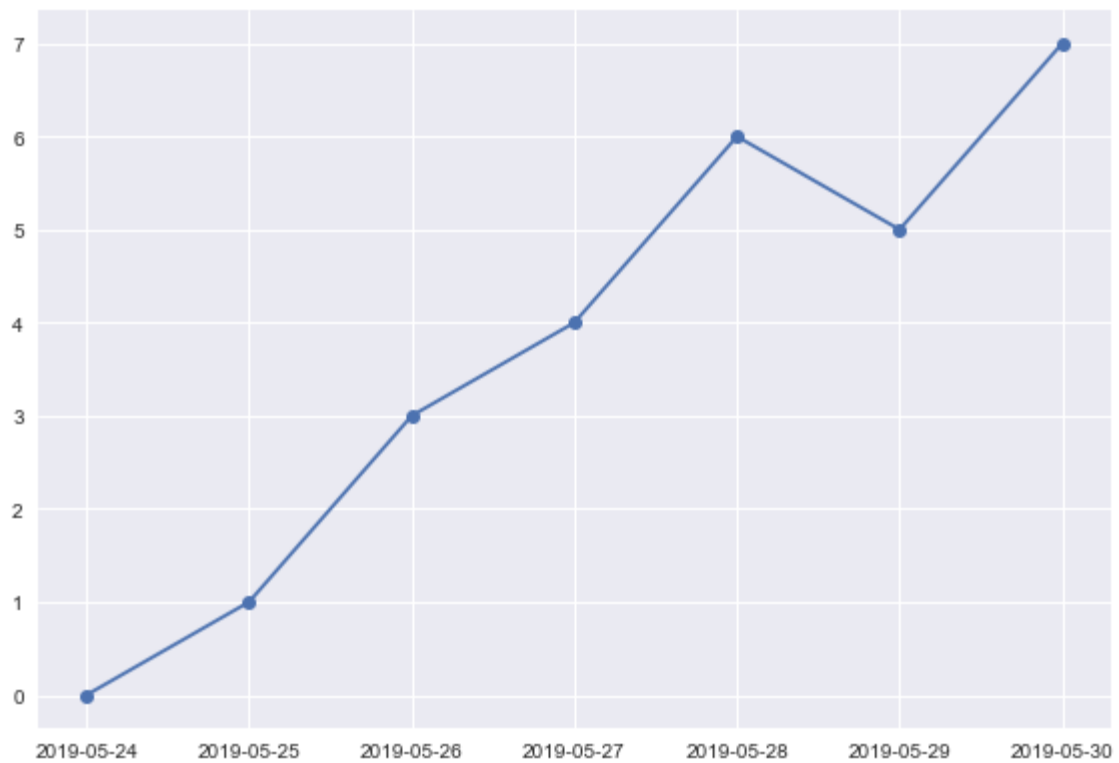
plt.plot_date(dates, y, linestyle='solid')

# data = pd.read_csv('data.csv')
# price_date = data['Date']
# price_close = data['Close']

# plt.title('Bitcoin Prices')
# plt.xlabel('Date')
# plt.ylabel('Closing Price')

plt.tight_layout()

plt.show()
```



https://github.com/CoreyMSchafer/code_snippets/blob/master/Python/Matplotlib/08-TimeSeries/finished_code.py

Flip the structure of the date

In [3]:

```
import pandas as pd
from datetime import datetime, timedelta
from matplotlib import pyplot as plt
from matplotlib import dates as mpl_dates

plt.style.use('seaborn')

dates = [
    datetime(2019, 5, 24),
    datetime(2019, 5, 25),
    datetime(2019, 5, 26),
    datetime(2019, 5, 27),
    datetime(2019, 5, 28),
    datetime(2019, 5, 29),
    datetime(2019, 5, 30)
]

y = [0, 1, 3, 4, 6, 5, 7]

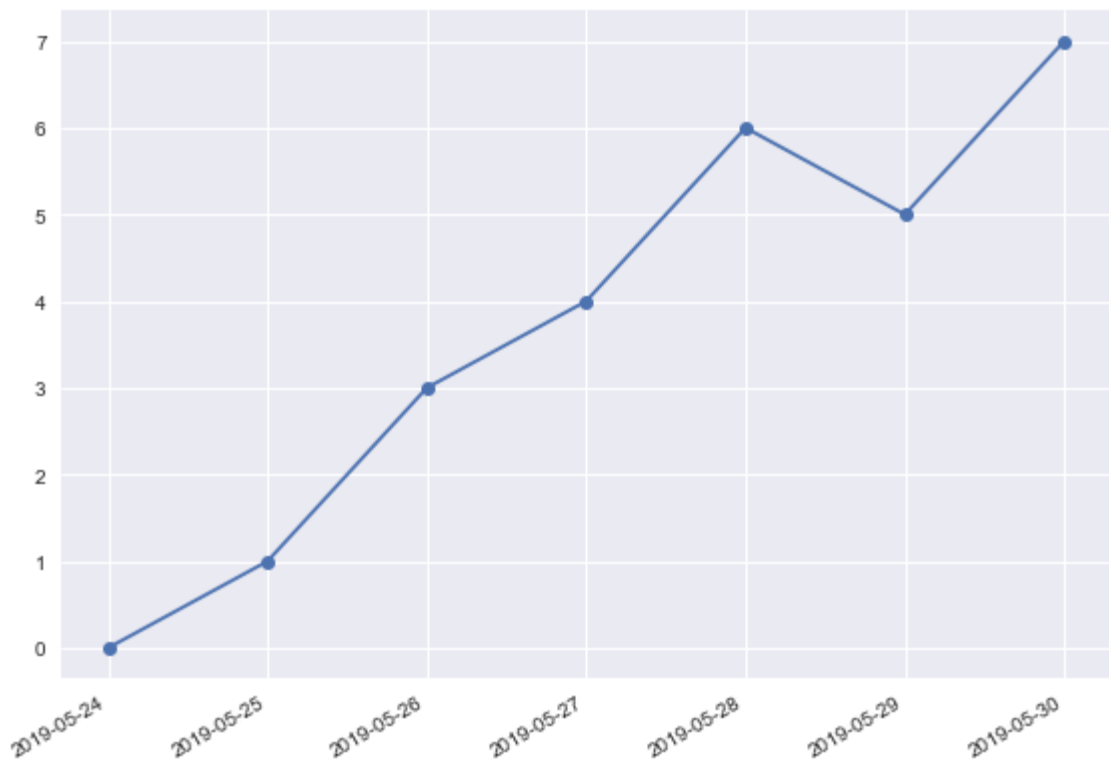
plt.plot_date(dates, y, linestyle='solid')
plt.gcf().autofmt_xdate()

# data = pd.read_csv('data.csv')
# price_date = data['Date']
# price_close = data['Close']

# plt.title('Bitcoin Prices')
# plt.xlabel('Date')
# plt.ylabel('Closing Price')

plt.tight_layout()

plt.show()
```



Change date format

In [4]:

```
import pandas as pd
from datetime import datetime, timedelta
from matplotlib import pyplot as plt
from matplotlib import dates as mpl_dates

plt.style.use('seaborn')

dates = [
    datetime(2019, 5, 24),
    datetime(2019, 5, 25),
    datetime(2019, 5, 26),
    datetime(2019, 5, 27),
    datetime(2019, 5, 28),
    datetime(2019, 5, 29),
    datetime(2019, 5, 30)
]

y = [0, 1, 3, 4, 6, 5, 7]

plt.plot_date(dates, y, linestyle='solid')

plt.gcf().autofmt_xdate()

date_format = mpl_dates.DateFormatter('%b, %d %Y')

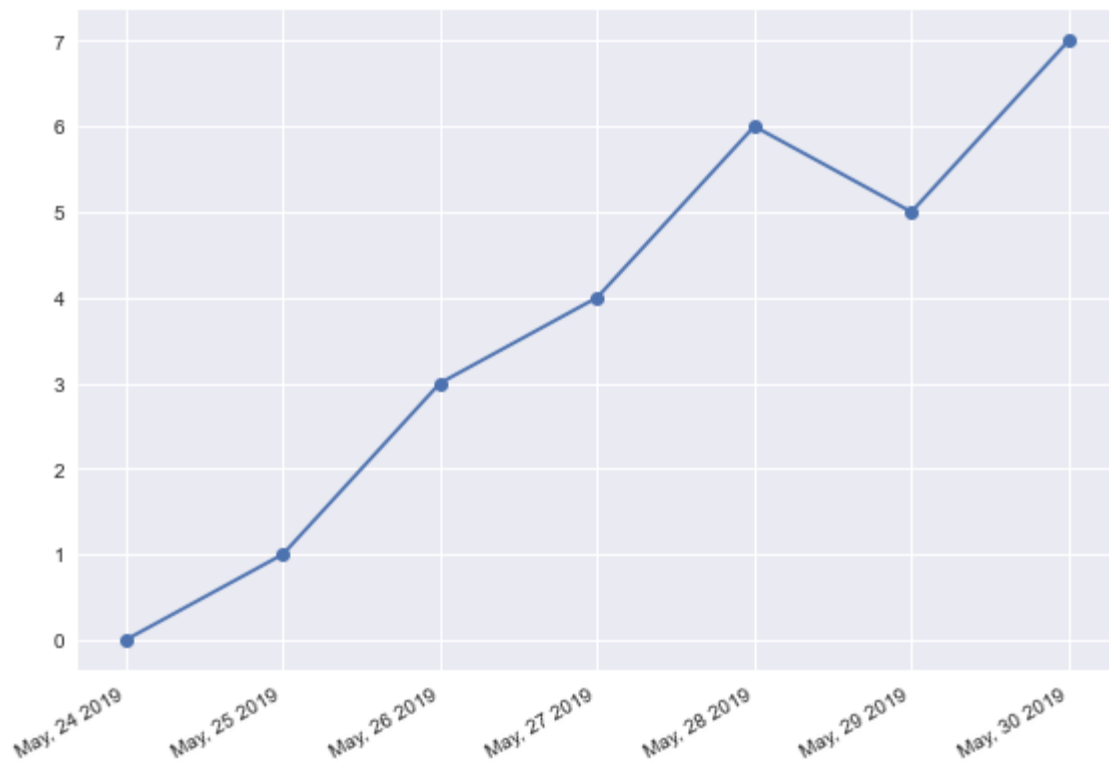
plt.gca().xaxis.set_major_formatter(date_format)

# data = pd.read_csv('data.csv')
# price_date = data['Date']
# price_close = data['Close']

# plt.title('Bitcoin Prices')
# plt.xlabel('Date')
# plt.ylabel('Closing Price')

plt.tight_layout()

plt.show()
```



Use real-life data

In [6]:

```
import pandas as pd
from datetime import datetime, timedelta
from matplotlib import pyplot as plt
from matplotlib import dates as mpl_dates

plt.style.use('seaborn')

data = pd.read_csv('data8.txt')
price_date = data['Date']
price_close = data['Close']

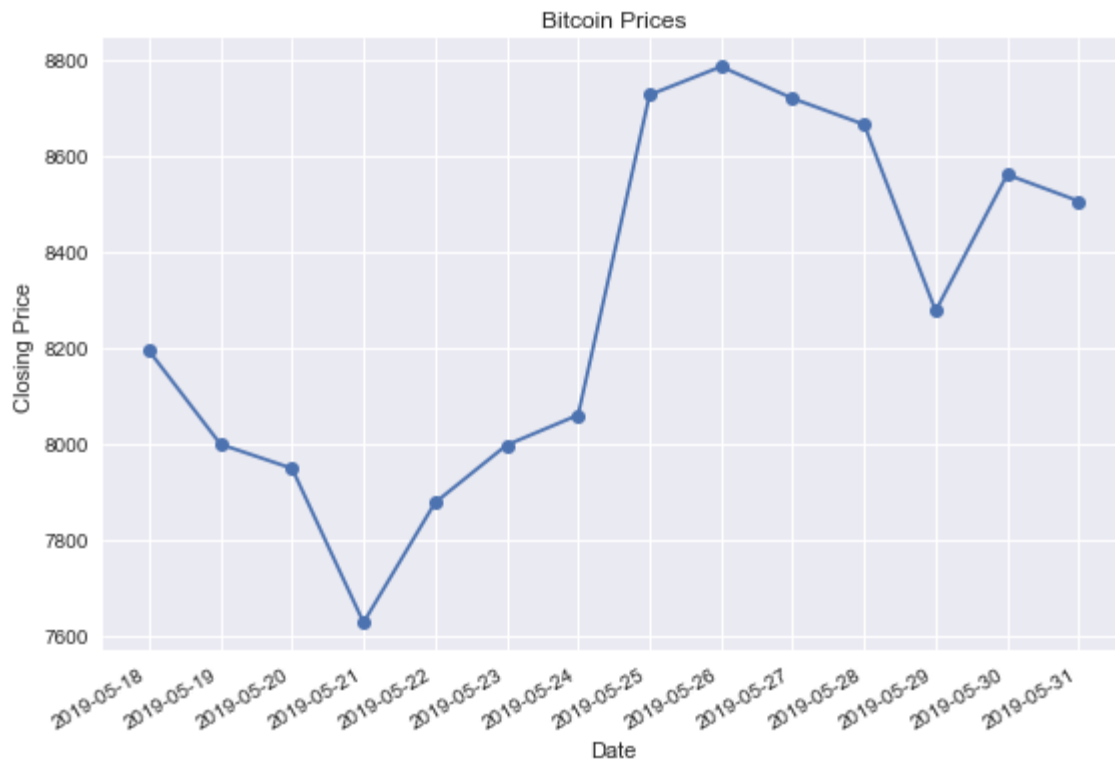
plt.plot_date(price_date, price_close, linestyle='solid')
plt.gcf().autofmt_xdate()

data['Date'] = pd.to_datetime(data['Date'])
data.sort_values('Date', inplace=True)

plt.title('Bitcoin Prices')
plt.xlabel('Date')
plt.ylabel('Closing Price')

plt.tight_layout()

plt.show()
```



In [7]:

```
import pandas as pd
from datetime import datetime, timedelta
from matplotlib import pyplot as plt
from matplotlib import dates as mpl_dates

plt.style.use('seaborn')

data = pd.read_csv('data8.txt')
price_date = data['Date']
price_close = data['Close']

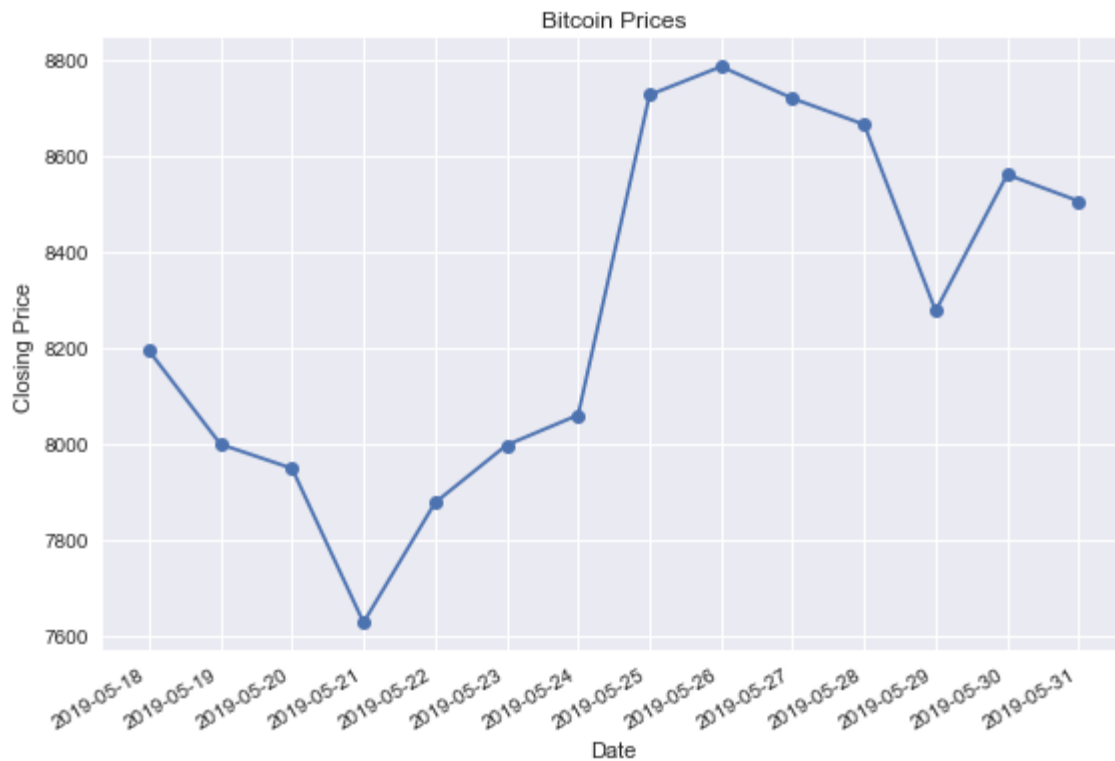
plt.plot_date(price_date, price_close, linestyle='solid')
plt.gcf().autofmt_xdate()

data['Date'] = pd.to_datetime(data['Date'])
data.sort_values('Date', inplace=True)

plt.title('Bitcoin Prices')
plt.xlabel('Date')
plt.ylabel('Closing Price')

plt.tight_layout()

plt.show()
```

```
In [8]: import pandas as pd
from datetime import datetime, timedelta
from matplotlib import pyplot as plt
from matplotlib import dates as mpl_dates

plt.style.use('ggplot')

data = pd.read_csv('data8.txt')
price_date = data['Date']
price_close = data['Close']

plt.plot_date(price_date, price_close, linestyle='solid')
plt.gcf().autofmt_xdate()

data['Date'] = pd.to_datetime(data['Date'])
data.sort_values('Date', inplace=True)

plt.title('Bitcoin Prices')
plt.xlabel('Date')
plt.ylabel('Closing Price')

plt.tight_layout()

plt.show()
```

