Submitted by: Angelo Luis C. Cu

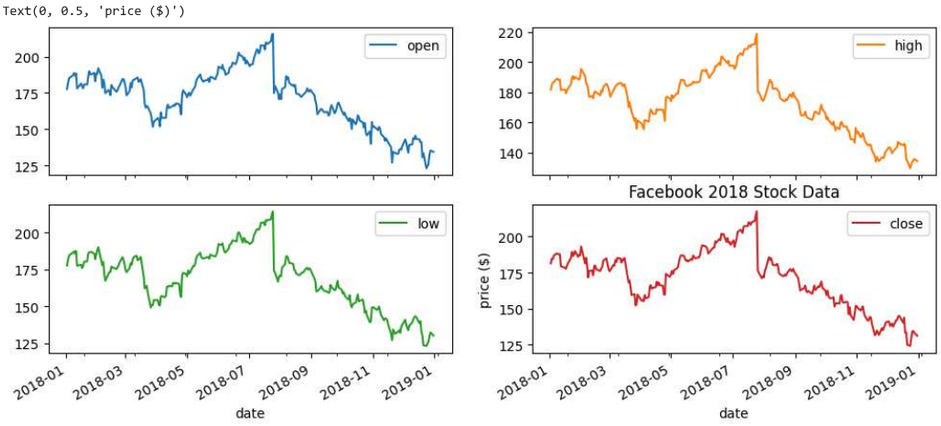
```
%matplotlib inline
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
import seaborn as sns
fb = pd.read_csv(
  'data/fb_stock_prices_2018.csv', index_col='date', parse_dates=True
)
```

```
fb.close.plot() # creates a line plot using close column
plt.suptitle('FB Closing Price') # title to plots and subplots
plt.xlabel('date') # label to the x axis
plt.ylabel('price ($)') # label to the y axis
```

```
Text(0, 0.5, 'price ($)')
```

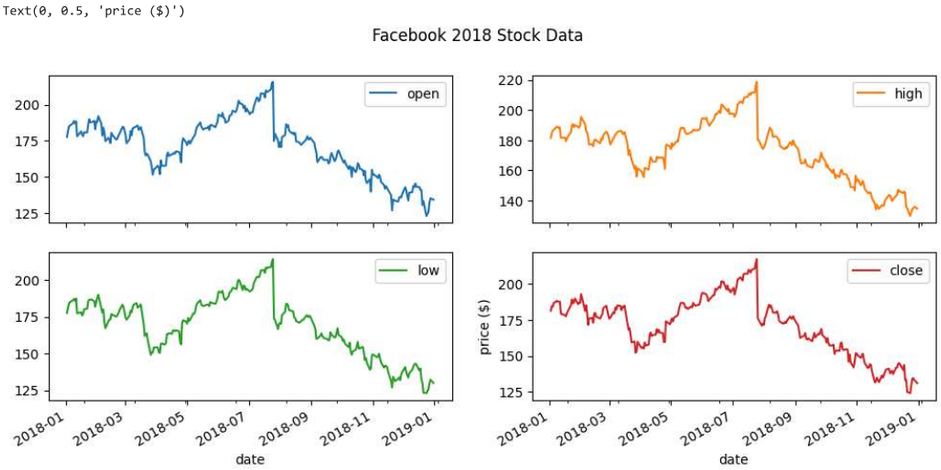

```
fb.iloc[:,:4].plot(subplots=True, layout=(2, 2), figsize=(12, 5)) # 4 line plots per data in OHLC
plt.title('Facebook 2018 Stock Data') # using .title() only puts the title on one of the subplot
plt.xlabel('date')
plt.ylabel('price ($)')
```

```
Text(0, 0.5, 'price ($)')
```



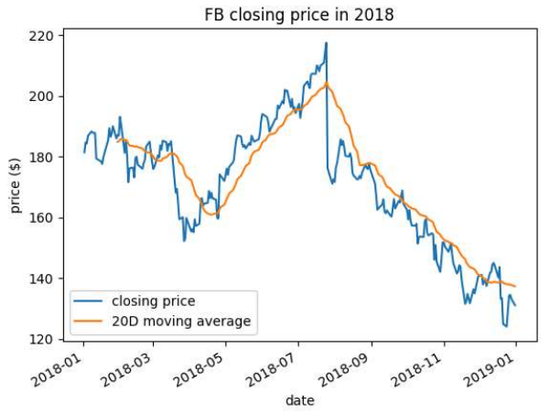

```
fb.iloc[:,:4].plot(subplots=True, layout=(2, 2), figsize=(12, 5))
plt.suptitle('Facebook 2018 Stock Data') # compare with using .suptitle()
plt.xlabel('date')
plt.ylabel('price ($)')
```

```
Text(0, 0.5, 'price ($)')
```



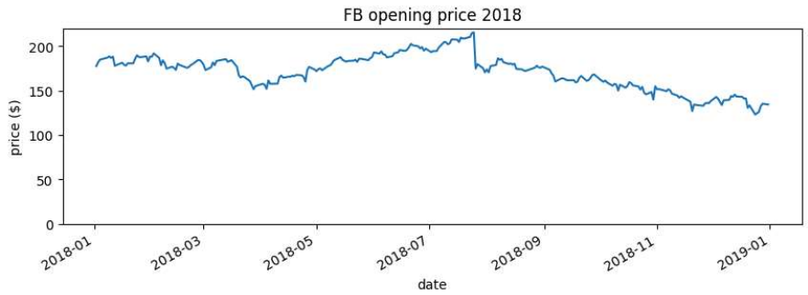

```
fb.assign(
  ma=lambda x: x.close.rolling(20).mean() # gets the rolling average per 20 days
).plot(
  y=['close', 'ma'],
  title='FB closing price in 2018',
  label=['closing price', '20D moving average']
)
plt.legend(loc='lower left') # places a legend on the lower left
plt.ylabel('price ($)')
```

```
Text(0, 0.5, 'price ($)')
```




```
fb.open.plot(figsize=(10, 3), title='FB opening price 2018')
plt.ylim(0, None) # from 0 to autodetermined (when None is passed) y limits
plt.ylabel('price ($)')
```

```
Text(0, 0.5, 'price ($)')
```

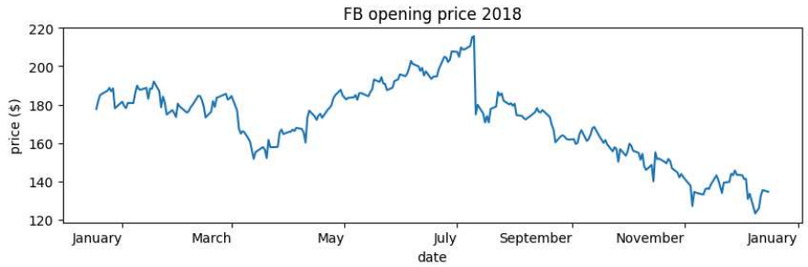



```
import calendar
fb.open.plot(figsize=(10, 3), rot=0, title='FB opening price 2018')
locs, labels = plt.xticks()

months = calendar.month_name[1::2] # the code from the pdf didn't work
months.append('January') # as it is missing the 7th month, which is in January

plt.xticks(locs + 15 , months) # renames the tick labels for x
plt.ylabel('price ($)')
```

```
Text(0, 0.5, 'price ($)')
```

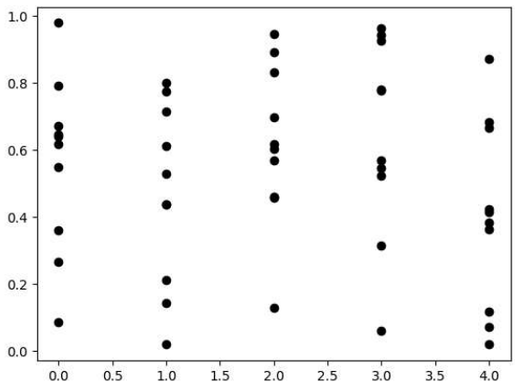



```
import matplotlib.ticker as ticker
ax = fb.close.plot( # creates a line plot from the close column
  figsize=(10, 4),
  title='Facebook Closing Price as Percentage of Highest Price in Time Range'
)
ax.yaxis.set_major_formatter(
  ticker.PercentFormatter(xmax=fb.high.max()) # .PercentFormatter formats number to percent
)
ax.set_yticks([
  fb.high.max()*pct for pct in np.linspace(0.6, 1, num=5)
])
ax.set_ylabel(f'percent of highest price (${fb.high.max()})')
```

```
Text(0, 0.5, 'percent of highest price ($218.62)')
```


```
fig, ax = plt.subplots(1, 1)
np.random.seed(0) # gets random data
ax.plot(np.tile(np.arange(0, 5), 10), np.random.rand(50), 'ko')
```

```
[<matplotlib.lines.Line2D at 0x7b1eb4be4b80>]
```




```
fig, ax = plt.subplots(1, 1)
np.random.seed(0)
ax.plot(np.tile(np.arange(0, 5), 10), np.random.rand(50), 'ko')
ax.get_xaxis().set_major_locator(
  ticker.MultipleLocator(base=1) # turns the tick labels to whole numbers
)
```