

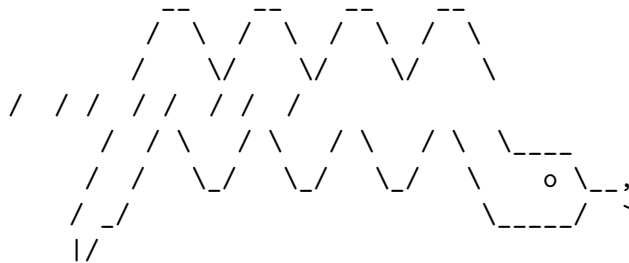
Question 5

March 4, 2023

```
[1]: !pip install yfinance==0.1.67
      !mamba install bs4==4.10.0 -y
      !pip install nbformat==4.2.0
```

```
Requirement already satisfied: yfinance==0.1.67 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (0.1.67)
Requirement already satisfied: pandas>=0.24 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
yfinance==0.1.67) (1.3.3)
Requirement already satisfied: requests>=2.20 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
yfinance==0.1.67) (2.26.0)
Requirement already satisfied: lxml>=4.5.1 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
yfinance==0.1.67) (4.6.4)
Requirement already satisfied: multitasking>=0.0.7 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
yfinance==0.1.67) (0.0.11)
Requirement already satisfied: numpy>=1.15 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
yfinance==0.1.67) (1.21.6)
Requirement already satisfied: python-dateutil>=2.7.3 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
pandas>=0.24->yfinance==0.1.67) (2.8.2)
Requirement already satisfied: pytz>=2017.3 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
pandas>=0.24->yfinance==0.1.67) (2022.6)
Requirement already satisfied: certifi>=2017.4.17 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
requests>=2.20->yfinance==0.1.67) (2022.12.7)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
requests>=2.20->yfinance==0.1.67) (1.26.13)
Requirement already satisfied: idna<4,>=2.5 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
requests>=2.20->yfinance==0.1.67) (3.4)
Requirement already satisfied: charset-normalizer~=2.0.0 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
```

```
requests>=2.20->yfinance==0.1.67) (2.0.12)
Requirement already satisfied: six>=1.5 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from python-
dateutil>=2.7.3->pandas>=0.24->yfinance==0.1.67) (1.16.0)
```



mamba (0.15.3) supported by @QuantStack

GitHub: <https://github.com/mamba-org/mamba>

Twitter: <https://twitter.com/QuantStack>

Looking for: ['bs4==4.10.0']

```
pkgs/r/linux-64      [>                ] (--:--) No change
pkgs/r/linux-64      [=====] (00m:00s) No change
pkgs/r/noarch        [>                ] (--:--) No change
pkgs/r/noarch        [=====] (00m:00s) No change
pkgs/main/linux-64   [>                ] (--:--) No change
pkgs/main/linux-64   [=====] (00m:00s) No change
pkgs/main/noarch     [>                ] (--:--) No change
pkgs/main/noarch     [=====] (00m:00s) No change
```

Pinned packages:

- python 3.7.*

Transaction

Prefix: /home/jupyterlab/conda/envs/python

All requested packages already installed

```

Collecting nbformat==4.2.0
  Downloading nbformat-4.2.0-py2.py3-none-any.whl (153 kB)
                                153.3/153.3 kB
17.9 MB/s eta 0:00:00
Requirement already satisfied: jupyter-core in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
nbformat==4.2.0) (4.12.0)
Requirement already satisfied: traitlets>=4.1 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
nbformat==4.2.0) (5.6.0)
Requirement already satisfied: jsonschema!=2.5.0,>=2.4 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
nbformat==4.2.0) (4.17.3)
Requirement already satisfied: ipython-genutils in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
nbformat==4.2.0) (0.2.0)
Requirement already satisfied: importlib-resources>=1.4.0 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
jsonschema!=2.5.0,>=2.4->nbformat==4.2.0) (5.10.1)
Requirement already satisfied: attrs>=17.4.0 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
jsonschema!=2.5.0,>=2.4->nbformat==4.2.0) (22.1.0)
Requirement already satisfied: typing-extensions in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
jsonschema!=2.5.0,>=2.4->nbformat==4.2.0) (4.4.0)
Requirement already satisfied: pkgutil-resolve-name>=1.3.10 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
jsonschema!=2.5.0,>=2.4->nbformat==4.2.0) (1.3.10)
Requirement already satisfied: importlib-metadata in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
jsonschema!=2.5.0,>=2.4->nbformat==4.2.0) (4.11.4)
Requirement already satisfied: pyparsing!=0.17.0,!0.17.1,!0.17.2,>=0.14.0 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from
jsonschema!=2.5.0,>=2.4->nbformat==4.2.0) (0.19.2)
Requirement already satisfied: zipp>=3.1.0 in
/home/jupyterlab/conda/envs/python/lib/python3.7/site-packages (from importlib-
resources>=1.4.0->jsonschema!=2.5.0,>=2.4->nbformat==4.2.0) (3.11.0)
Installing collected packages: nbformat
  Attempting uninstall: nbformat
    Found existing installation: nbformat 5.7.0
    Uninstalling nbformat-5.7.0:
      Successfully uninstalled nbformat-5.7.0

```

ERROR: pip's dependency resolver does not currently take into account all the packages that are installed. This behaviour is the source of the following dependency conflicts.

nbconvert 7.2.6 requires nbformat>=5.1, but you have nbformat 4.2.0 which is incompatible.

nbclient 0.7.2 requires nbformat>=5.1, but you have nbformat 4.2.0 which is incompatible.

jupyter-server 1.23.3 requires nbformat>=5.2.0, but you have nbformat 4.2.0 which is incompatible.

Successfully installed nbformat-4.2.0

```
[2]: import yfinance as yf
import pandas as pd
import requests
import plotly.graph_objects as go
from plotly.subplots import make_subplots
```

```
[ ]: tesla = yf.Ticker("TSLA")
```

```
[7]: stock_data = yf.download("TSLA", start="2020-01-01", end="2021-09-30",
    ↳ progress=False)
revenue_data = yf.download("TSLA", start="2020-01-01", end="2021-09-30",
    ↳ progress=False)
stock_data.reset_index(inplace=True)
revenue_data.reset_index(inplace=True)
```

```
File "/tmp/ipykernel_6141/4002669065.py", line 4
    revenue_data.reset_index(inplace=True
    ^
```

SyntaxError: unexpected EOF while parsing

```
[4]: def make_graph(stock_data, revenue_data, stock):
    fig = make_subplots(rows=2, cols=1, shared_xaxes=True,
    ↳ subplot_titles=("Historical Share Price", "Historical Revenue"),
    ↳ vertical_spacing = .3)
    stock_data_specific = stock_data[stock_data.Date <= '2021--06-14']
    revenue_data_specific = revenue_data[revenue_data.Date <= '2021-04-30']
    fig.add_trace(go.Scatter(x=pd.to_datetime(stock_data_specific.Date,
    ↳ infer_datetime_format=True), y=stock_data_specific.Close.astype("float"),
    ↳ name="Share Price"), row=1, col=1)
```

```

fig.add_trace(go.Scatter(x=pd.to_datetime(revenue_data_specific.Date,
↳infer_datetime_format=True), y=revenue_data_specific.Revenue.
↳astype("float"), name="Revenue"), row=2, col=1)
fig.update_xaxes(title_text="Date", row=1, col=1)
fig.update_xaxes(title_text="Date", row=2, col=1)
fig.update_yaxes(title_text="Price ($US)", row=1, col=1)
fig.update_yaxes(title_text="Revenue ($US Millions)", row=2, col=1)
fig.update_layout(showlegend=False,
height=900,
title=stock,
xaxis_rangeslider_visible=True)
fig.show()

```

```
[8]: make_graph(stock_data, revenue_data, 'TSLA')
```

```

-----
NameError                                Traceback (most recent call last)
/tmp/ipykernel_6141/3068498563.py in <module>
----> 1 make_graph(stock_data, revenue_data, 'TSLA')

NameError: name 'stock_data' is not defined

```

```
[ ]:
```