

Task II: Read through Chapter 7 (Financial Analysis – Bitcoin and the Stock Market) of the textbook and learn how Python can be used for collecting and analyzing financial data. Your submission should include

- a. All created ipynb files.
- b. A docs/pdf file that includes detailed screenshots and description for each screenshot.

- It is not required, but for your learning, you may want to run the codes in other two sections of the chapter.

Run the following in conda terminal with the correct environment selected. The book uses `book_env` but I have been using `msit` as the same of my environment for this class. It realistically shouldn't make a difference as long as I am consistent with the environment selection.

```
git clone https://github.com/stefmolin/stock-analysis.git \
pip3 install -r stock-analysis/requirements.txt \
pip3 install -e stock-analysis

import stock_analysis

reader = stock_analysis.StockReader('2019-01-01', '2020-12-31')

# get faang data
fb, aapl, amzn, nflx, goog = (
    reader.get_ticker_data(ticker)
    for ticker in ['META', 'AAPL', 'AMZN', 'NFLX', 'GOOG']
)

# get S&P 500 data
sp = reader.get_index_data('S&P 500')

# get bitcoin data in USD
bitcoin = reader.get_bitcoin_data('USD')
```

```
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TypeError                                Traceback (most recent call
last)
Cell In[4], line 6
      3 reader = stock_analysis.StockReader('2019-01-01', '2020-12-
31')
      5 # get faang data
----> 6 fb, aapl, amzn, nflx, goog = (
      7     reader.get_ticker_data(ticker)
      8     for ticker in ['META', 'AAPL', 'AMZN', 'NFLX', 'GOOG']
      9 )
     11 # get S&P 500 data
```

```

12 sp = reader.get_index_data('S&P 500')
Cell In[4], line 7, in <genexpr>(.0)
    3 reader = stock_analysis.StockReader('2019-01-01', '2020-12-
31')
    5 # get faang data
    6 fb, aapl, amzn, nflx, goog = (
----> 7     reader.get_ticker_data(ticker)
    8     for ticker in ['META', 'AAPL', 'AMZN', 'NFLX', 'GOOG']
    9 )
    11 # get S&P 500 data
    12 sp = reader.get_index_data('S&P 500')

```

```

File ~\anaconda3\envs\msit\lib\site-packages\stock_analysis\
utils.py:39, in label_sanitizer.<locals>.method_wrapper(self, *args,
**kwargs)
    37 @wraps(method)
    38 def method_wrapper(self, *args, **kwargs):
--> 39     df = method(self, *args, **kwargs)
    41     # fix the column names
    42     df.columns = [
    43         _sanitize_label(col) for col in df.columns
    44     ]

```

```

File ~\anaconda3\envs\msit\lib\site-packages\stock_analysis\
stock_reader.py:97, in StockReader.get_ticker_data(self, ticker)
    85 @label_sanitizer
    86 def get_ticker_data(self, ticker):
    87     """
    88     Get historical OHLC data for given date range and ticker
    89     from Yahoo! Finance.
    (...)
    95     A `pandas.DataFrame` object with the stock data.
    96     """
--> 97     return web.get_data_yahoo(ticker, self.start, self.end)

```

```

File ~\anaconda3\envs\msit\lib\site-packages\pandas_datareader\
data.py:80, in get_data_yahoo(*args, **kwargs)
    79 def get_data_yahoo(*args, **kwargs):
--> 80     return YahooDailyReader(*args, **kwargs).read()

```

```

File ~\anaconda3\envs\msit\lib\site-packages\pandas_datareader\
base.py:253, in _DailyBaseReader.read(self)
    251 # If a single symbol, (e.g., 'GOOG')
    252 if isinstance(self.symbols, (string_types, int)):
--> 253     df = self._read_one_data(self.url,
params=self._get_params(self.symbols))
    254 # Or multiple symbols, (e.g., ['GOOG', 'AAPL', 'MSFT'])
    255 elif isinstance(self.symbols, DataFrame):

```

```

File ~\anaconda3\envs\msit\lib\site-packages\pandas_datareader\yahoo\
daily.py:153, in YahooDailyReader._read_one_data(self, url, params)
    151 try:
    152     j = json.loads(re.search(ptrn, resp.text,
re.DOTALL).group(1))
--> 153     data = j["context"]["dispatcher"]["stores"]
["HistoricalPriceStore"]
    154 except KeyError:
    155     msg = "No data fetched for symbol {} using {}"

```

TypeError: string indices must be integers

```

import stock_analysis
from datetime import datetime

# changing the way that the dates are imported fixed the error that
# was getting
# there are cleaner ways of fixing it but this atleast demonstrates
# easily what changes were being made
start_date = datetime.strptime('2019-01-01', '%Y-%m-%d').date()
end_date = datetime.strptime('2020-12-31', '%Y-%m-%d').date()
reader = stock_analysis.StockReader(start_date, end_date)

# get faang data
fb, aapl, amzn, nflx, goog = (
    reader.get_ticker_data(ticker) for ticker in ['META', 'AAPL',
'AMZN', 'NFLX', 'GOOG']
)

# get S&P 500 data
sp = reader.get_index_data('S&P 500')

# get bitcoin data in USD
bitcoin = reader.get_bitcoin_data('USD')

```

```

-----
-----
TypeError                                Traceback (most recent call
last)
Cell In[5], line 11
      8 reader = stock_analysis.StockReader(start_date, end_date)
     10 # get faang data
--> 11 fb, aapl, amzn, nflx, goog = (
     12     reader.get_ticker_data(ticker) for ticker in ['META',
'AAPL', 'AMZN', 'NFLX', 'GOOG']
     13 )
     15 # get S&P 500 data
     16 sp = reader.get_index_data('S&P 500')

Cell In[5], line 12, in <genexpr>(.0)

```

```

    8 reader = stock_analysis.StockReader(start_date, end_date)
    10 # get faang data
    11 fb, aapl, amzn, nflx, goog = (
---> 12     reader.get_ticker_data(ticker) for ticker in ['META',
'AAPL', 'AMZN', 'NFLX', 'GOOG']
    13 )
    15 # get S&P 500 data
    16 sp = reader.get_index_data('S&P 500')

```

File ~\anaconda3\envs\msit\lib\site-packages\stock_analysis\utils.py:39, in label_sanitizer.<locals>.method_wrapper(self, *args, **kwargs)

```

    37 @wraps(method)
    38 def method_wrapper(self, *args, **kwargs):
---> 39     df = method(self, *args, **kwargs)
    41     # fix the column names
    42     df.columns = [
    43         _sanitize_label(col) for col in df.columns
    44     ]

```

File ~\anaconda3\envs\msit\lib\site-packages\stock_analysis\stock_reader.py:97, in StockReader.get_ticker_data(self, ticker)

```

    85 @label_sanitizer
    86 def get_ticker_data(self, ticker):
    87     """
    88     Get historical OHLC data for given date range and ticker
    89     from Yahoo! Finance.
    (...)
    95     A `pandas.DataFrame` object with the stock data.
    96     """
---> 97     return web.get_data_yahoo(ticker, self.start, self.end)

```

File ~\anaconda3\envs\msit\lib\site-packages\pandas_datareader\data.py:80, in get_data_yahoo(*args, **kwargs)

```

    79 def get_data_yahoo(*args, **kwargs):
---> 80     return YahooDailyReader(*args, **kwargs).read()

```

File ~\anaconda3\envs\msit\lib\site-packages\pandas_datareader\base.py:253, in _DailyBaseReader.read(self)

```

    251 # If a single symbol, (e.g., 'GOOG')
    252 if isinstance(self.symbols, (string_types, int)):
--> 253     df = self._read_one_data(self.url,
params=self._get_params(self.symbols))
    254 # Or multiple symbols, (e.g., ['GOOG', 'AAPL', 'MSFT'])
    255 elif isinstance(self.symbols, DataFrame):

```

File ~\anaconda3\envs\msit\lib\site-packages\pandas_datareader\yahoo\daily.py:153, in YahooDailyReader._read_one_data(self, url, params)

```

    151 try:
    152     j = json.loads(re.search(ptrn, resp.text,

```

```
re.DOTALL).group(1))
--> 153     data = j["context"]["dispatcher"]["stores"]
["HistoricalPriceStore"]
154 except KeyError:
155     msg = "No data fetched for symbol {} using {}"
```

TypeError: string indices must be integers

At this point I am getting the error pointing to roughly:

```
--> 153     data = j["context"]["dispatcher"]["stores"]
["HistoricalPriceStore"]
154 except KeyError:
155     msg = "No data fetched for symbol {} using {}"
```

TypeError: string indices must be integers

But searching in both `~\AppData\Roaming\Python\Python39\site-packages\stock_analysis\utils.py:39` where the package installed, and in the directory that I created a clone of the package with earlier, I am unable to find the referenced error lines. I could not find a section in the book that covers it either

Alright sorry for more general commentary haha but I just checked Brightspace because I was getting annoyed by the errors and saw the post you made this morning about it being related to Yahoo Finance package not working properly.