Q1. What is the distinction between a numpy array and a pandas data frame? Is there a way to convert between the two if there is?

**Ans:** Pandas data frame consumes more memory, while numpy array consumes lesser memory. Data frame provides only 2 dimension table, while numpy can provide multi dimension arrays.

Example to convert numpy array to pandas data frame:

df = pd.DataFrame(numpy\_array:

index=['day1', 'day2', 'day3', 'day4'],

columns=['digits', 'words'])

convert data frame to numpy array:

using df.to\_numpy(), we can convert data frame to numpy array.

Q2. What can go wrong when an user enters in a stock-ticker symbol, and how do you handle it?

**Ans:** If a user enter the wrong stock code then program gives an error and stops working. To handle this we have to check the http status code, and as per error we have to redirect program to display an page, which will provide a meaningful message to user.

Q3. Identify some of the plotting techniques that are used to produce a stock-market chart.

**Ans:** Line chart, candle chart, bar chart etc.

Q4. Why is it essential to print a legend on a stock market chart?

**Ans:** otherwise it will be difficult to know that on which day what was the stock price.

Q5. What is the best way to limit the length of a pandas data frame to less than a year?

**Ans:** by using filtering and masking, we can limit the length of dataframe.

Q6. What is the definition of a 180-day moving average?

**Ans:** 180 days moving average means average of average of data in last 180 days. E.g. if in last 180 days average of data is A1, A2, A3, ….., A180, then moving average will be:

MA=(A1+A2+A3+…..A180)/180.

Q7. Did the chapter's final example use "indirect" importing? If so, how exactly do you do it?

**Ans:** Suppose I have a module foo.py which imports os. I make another script called bar.py that imports foo.py, then I can use os functions directly in my bar.py without explicitly import os module. I can call it foo.os.method name. This is called indirect importing.