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?

**Numpy is memory efficient**. Pandas has a better performance when a number of rows is 500K or more. Numpy has a better performance when number of rows is 50K or less. Indexing of the pandas series is very slow as compared to numpy arrays

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

A stock ticker typically reports on the most active securities or ones making headlines on a given day. **The ticker typically shows the ticker symbol, the price change and percentage change from the previous session's close, and often the volume of the shares being traded**.

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

**line chart, bar chart, point and figure chart and candlestick chart**.

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

In addition, **the legend displays information about the points that are currently hovered over or, if none are hovered over, about the last points shown on the plot**. The text of a legend item includes the name of a series and, depending on the series type, the value or values of the current or last point.

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

There are two main ways to reduce DataFrame memory size in Pandas without necessarily compromising the information contained within the DataFrame:

1. Use smaller numeric types.
2. Convert object columns to categorical columns.

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

A moving average is a calculation to analyze data points by creating a series of averages of different subsets of the full data set.

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