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?

A numpy array is a homogeneous multidimensional array, while a pandas data frame is a two-dimensional table with columns of different data types. Pandas data frame is built on top of numpy arrays, with additional features such as indexing by row and column labels, handling missing data, and the ability to manipulate columns of data.

You can convert a pandas data frame to a numpy array using the **.values** attribute of the data frame, and you can create a pandas data frame from a numpy array using the **pd.DataFrame()** constructor.

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

When a user enters a stock-ticker symbol, there are several things that can go wrong. The symbol may not exist or may be misspelled, the data may not be available or may be incomplete, or there may be errors or inconsistencies in the data.

To handle this, you can validate the input by checking if the symbol exists and is spelled correctly, and handle any errors or missing data gracefully by providing appropriate error messages or default values.

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

Some of the plotting techniques used to produce a stock-market chart include line plots, candlestick charts, bar plots, and scatter plots. These can be used to visualize different aspects of the stock data, such as price movements, trading volume, and other indicators.

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

A legend is essential on a stock market chart because it provides a key to interpreting the various lines, bars, and other visual elements in the chart. Without a legend, it can be difficult to understand the meaning of the data and to compare different stocks or time periods.

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

To limit the length of a pandas data frame to less than a year, you can use boolean indexing to filter the data based on a date range. For example, you can create a mask using a comparison operator to select only the rows where the date is within a specified range, and then use the **.loc** accessor to subset the data frame to only those rows.

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

A 180-day moving average is a technical indicator used in finance to analyze stock price trends. It is calculated by taking the average price of a stock over the previous 180 trading days, and is used to smooth out short-term fluctuations in the stock price and identify long-term trends.

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

Yes, the chapter's final example used "indirect" importing by importing the necessary modules inside the function that uses them, rather than at the top level of the script. This can help to avoid namespace clashes and reduce the number of global variables in the script. To do this, you can simply import the modules you need inside the function, and then use them as usual within the function.