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?

The distinction between a numpy array and a pandas DataFrame lies in their functionality and structure. A numpy array is a fundamental data structure for numerical computations, while a pandas DataFrame is a more versatile and powerful data structure that provides labeled and tabular data with columns of potentially different data types. Conversion between the two can be achieved using functions like numpy.asarray() to convert a DataFrame to a numpy array and pandas.DataFrame() to create a DataFrame from a numpy array.

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

When a user enters a stock ticker symbol, potential issues can arise such as incorrect or non-existent symbols, misspellings, or variations in the symbol format. To handle this, you can implement error checking, data validation, and possibly use external APIs to verify and retrieve accurate stock data based on the entered symbol.

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

Some plotting techniques used to produce a stock-market chart include line plots for stock price over time, candlestick charts to show open, close, high, and low prices, and moving average plots to visualize trends.

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

Printing a legend on a stock market chart is essential because it provides context for the plotted data. The legend labels help users understand what each line or element represents, such as stock prices, moving averages, or other indicators.

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

The best way to limit the length of a pandas DataFrame to less than a year is to filter the DataFrame based on a date range. You can use the .loc[] or boolean indexing to select rows within the desired date range.

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

A 180-day moving average is a trend-following technical indicator that calculates the average of a stock's closing prices over the last 180 days. It helps smoothen out short-term fluctuations and provides insights into longer-term trends.

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

The concept of "indirect" importing was not explicitly mentioned in the context of the question. Indirect importing typically refers to importing modules or objects indirectly through a middleman module, often using aliasing. If the chapter's final example used this approach, it would involve importing a module or object from a submodule using an alias to simplify the code and improve readability.