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:

Numpy arrays and Pandas DataFrames serve different purposes. Numpy arrays are used for numerical computing with homogeneous data, while Pandas DataFrames are used for data manipulation and analysis, accommodating heterogeneous data.

To convert between the two:

* Numpy array to Pandas DataFrame: Use the pd.DataFrame() function.
* Pandas DataFrame to Numpy array: Use the .to\_numpy() method.

These conversion methods allow for seamless transition between the two data structures, enabling efficient data manipulation and analysis in Python.

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

Ans:

* Incorrect or invalid ticker symbol
* Network or API connectivity issues
* Data format inconsistencies

And To handle these issues, consider implementing input validation, robust error handling, validation checks, and fallback mechanisms.

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

Ans:

* Line Chart
* Candlestick Chart
* OHLC Chart (Open-High-Low-Close)
* Moving Averages Plot
* Bollinger Bands Plot
* Volume Chart
* RSI (Relative Strength Index) Plot
* MACD (Moving Average Convergence Divergence) Plot

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

Ans: a legend on a stock market chart is crucial for providing clarity, aiding in data interpretation, facilitating comparisons, and ensuring accurate communication of the data represented, thereby enhancing the overall understanding and analysis of the stock market data.

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

Ans:

1. Using date filtering
2. Slicing based on Date range
3. Resampling and aggregation

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

Ans: A 180-day moving average is a technical analysis indicator commonly used in financial markets to analyze the overall trend of a security's price over a specific period. Specifically, it represents the average closing price of a security over the past 180 trading days.

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

Ans: Indirect importing can be beneficial in scenarios where you want to reduce the overhead associated with importing modules that might not be needed throughout the entire execution of the script. However, it's important to note that this approach can make the code less readable and potentially harder to maintain, so it should be used judiciously and only when necessary.