**Python Advanced Assignment 25**

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-) A numpy array is a multi-dimensional array of homogeneous data types, while a pandas data frame is a two-dimensional table with heterogeneous data types and labeled axes for rows and columns. Numpy arrays are used for numerical computations and are optimized for performance, while pandas data frames are used for data manipulation and analysis. It is possible to convert a pandas data frame to a numpy array using the "values" attribute of the data frame, and to convert a numpy array to a pandas data frame using the "DataFrame" constructor.

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

Ans-) When a user enters a stock-ticker symbol, several things can go wrong, such as:

* The symbol does not exist or is misspelled.
* The symbol is not traded on the specified exchange or market.
* The user does not have access to the specified exchange or market. To handle these situations, you can use error handling techniques such as try-except blocks and validation of user inputs against a list of valid symbols.

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

Ans-) Some of the plotting techniques used to produce a stock-market chart include:

* Line chart: plotting the closing price of a stock over time.
* Candlestick chart: plotting the high, low, open, and close prices of a stock over time.
* Volume chart: plotting the volume of shares traded over time.
* Moving average: plotting the average price of a stock over a period of time.

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

Ans-) Printing a legend on a stock market chart is essential because it provides a key to interpreting the chart. The legend explains the meaning of the various lines or symbols used in the chart and allows the viewer to identify the different data series being plotted.

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

Ans-) The best way to limit the length of a pandas data frame to less than a year is to filter the data frame using a date range. For example, you can use the "loc" method to select rows where the date is within a specific range.

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

Ans-) A 180-day moving average is a technical analysis indicator that calculates the average price of a security over the past 180 trading days. The moving average is used to smooth out short-term fluctuations in the price of a security and provide a long-term trend signal.

Q7. Did the chapter’s final example use “indirect”; importing? If so, how exactly do you do it?

Ans-) The final example in the chapter did not use indirect importing. Indirect importing is a technique in which a module imports another module indirectly by importing a third module that in turn imports the second module. This can be done using the "from module import \*" syntax in the third module's code, which causes the second module's public API to be imported into the third module.