Data Science Test: **Stock Price Data Analysis for BPCL Company**

Objective: The objective of this test is to build a Jupyter notebook that will retrieve historical stock price data for BPCL (Bharat Petroleum Corporation Limited) from data.nasdaq.com and perform the following tasks:

1. Plot the raw stock prices over time.
2. Correct the stock prices for any splits and consolidations that have occurred.
3. Display the final adjusted stock prices.
4. Show the dates for any splits and consolidations that have occurred.

Data Source: The stock price data for BPCL will be fetched from data.nasdaq.com. The data should be retrieved for the last 5 years (or as much data as is available).

Data Processing:

1. Plot the raw stock prices over time using a line graph.
2. Programmitically detect any splits and consolidations that have occurred.
3. Correct the stock prices for any splits and consolidations that have occurred.
4. Display the final adjusted stock prices.
5. Show the dates for any splits and consolidations that have occurred.

Output: The final output of the Jupyter notebook should be a line graph showing the adjusted stock prices over time, with split and consolidation events marked on the graph.

Technology Requirements:

* The Jupyter notebook should be written in Python.
* The stock price data should be retrieved using the data.nasdaq.com API.
* The line graph should be generated using a plotting library such as Matplotlib or Seaborn.

Deliverables:

1. The completed Jupyter notebook that meets the requirements outlined above.
2. A brief summary of your findings and observations from the analysis of the BPCL stock price data.
3. All source code and supporting documentation necessary to run the Jupyter notebook on a computer with Python and the required libraries installed.

Timeline: The test should be completed within 1 week from the start date.

Note: It is important to note that the stock price data is subject to change, so the results of this analysis may differ from one run to another. The focus of this test is not on providing an accurate prediction of stock prices, but on demonstrating the ability to retrieve and process stock price data using a Jupyter notebook.

Useful Information:

A stock split occurs when a company increases the number of shares outstanding by issuing more shares to shareholders, while reducing the price of each share in proportion. For example, if a company has a 2-for-1 stock split, a shareholder who previously owned 100 shares of the stock would now own 200 shares, but the total value of their investment would remain the same.

A stock consolidation, also known as a reverse split, is the opposite of a stock split. In a consolidation, the number of shares outstanding is reduced by retiring some of the shares and increasing the price of each remaining share in proportion. For example, if a company has a 1-for-2 consolidation, a shareholder who previously owned 100 shares of the stock would now own 50 shares, but the total value of their investment would remain the same.