**Analyze Bitcoin Data in Excel**

This project will guide you through an analysis of Bitcoin price data using all the Excel skills you’ve learned so far. You’ll import and clean the dataset, explore the numeric data with pivot tables and formulas, and communicate your findings using visualizations.

**The Scenario**

Manuela, the Head of Finance at your company, has requested an analysis of the performance of Bitcoin. She’s intrigued by the potential upsides but worried about volatility. She’s asked for a report comparing the behavior of Bitcoin in the last year (2021) to the behavior of the S&P500, an index often used as the standard for stability. In her email, she attached a dataset with data on both Bitcoin and the S&P500 for you to analyze.

**First Group of Checkboxes (Import and Inspect):**

* Let’s get started by importing the data into Excel. Open up bitcoin-analysis.xlsx and import data.csv.
* Let’s inspect our data before diving into an analysis. First, trim whitespace from any text columns to be sure that those are clean.
* Next, check any text data columns for inconsistent entries and reconcile them formulaically.
* Lastly, check all text columns for blank/missing entries.
* Now that our text data is nice and clean, let’s look at the date and numeric columns. Start by checking all of these columns for missing data.
* Make a note of any missing data and any data questions that might be influenced by the missing data.
* Next, inspect each column for unusually large or small values. Make a note of any such values you notice.

**Second Group of Checkboxes (Explore and Visualize):**

* In an actual business situation, you would probably want to look for correct values for any missing or suspect data first. To practice dealing with these values in analysis, and because the dataset isn’t too suspect, we’ll move on with this data as-is. Manuela has asked you to analyze the potential upside to Bitcoin and its volatility. Let’s start with the upside. Find the first 2021 opening value and last 2021 closing value for each symbol. Record these on a sheet named Upside, and calculate the percentage change for each. Create a bar chart to visualize the change.
* Now, let’s look into volatility. Find the largest high and smallest low value for each symbol, and record these on a new sheet titled Spread. Use formulas to calculate each of the lows as a percentage of the high. Create a bar chart to visualize these percentages.
* Create a pivot table on Exploratory Data Analysis that records the average closing value per month for each symbol. Use the months as row labels.
* Apply the same color scale individually to each column to see how they vary over time.
* Create another pivot table that has each day as a row, each symbol as a column, and records the high for that day in the values. Excel will automatically add Month to the rows when you add the date, remove that by un-checking it or dragging it out of the Rows box. Note that you’ll be missing some values for SP500 over weekends. Create a line chart of these highs.

**Third Group of Checkboxes (Present):**

* On each tab, adjust the formatting of the numbers to make them more readable.
* Make sure all charts have titles and labels.
* Hide the raw data sheet.
* Add a brief note to explain the key takeaway from each sheet.
* Add a final recommendation to a Final Recommendation sheet.