Data Analytics with Python

Python Works like a Powerful Calculator. We use it to Clean/ and Grab pretty much any Information from Large Data Sets. So if you have an Excel Workbook with Multiple Sheets each containing thousands of rows and columns. We can use Python to help us grab and only calculate the things we need.

Here I used Python script to analyze the financial records of a company. I was given a set of financial data called budget_data.csv.

My task was to create a Python script that analyzes the records to calculate each of the following.

- The total number of months included in the dataset
- The net total amount of "Profit/Losses" over the entire period
- The changes in "Profit/Losses" over the entire period, and then the average of those changes
- The greatest increase in profits (date and amount) over the entire period
- The greatest decrease in profits (date and amount) over the entire period

By Using Python I was able to grab only the information I needed to Answers the questions above. By Submitting Functions for Python to perform.

 Example.

The Function below is how I would ask for:

- The greatest increase in profits (date and amount) over the entire period
- The greatest decrease in profits (date and amount) over the entire period

 # Locate the index value of highest and lowest changes in "Profit/Losses" over the entire period

  highest_month_index = profit_loss_changes.index(highest_change)

  lowest_month_index = profit_loss_changes.index(lowest_change)

After inputting this functions, python will fetch your inquiries.

Results Summary:

The code below : Is telling Python how to display you output. Pretty much how you want the answer to print.

```python
# -->>  Export a text file with the results

budget_file = os.path.join("Output", "budget_data.txt")

with open(budget_file, "w") as outfile:



    outfile.write("Financial Analysis\n")

    outfile.write("---------------------------\n")

    outfile.write(f"Total Months:  {count_months}\n")

    outfile.write(f"Total:  ${net_profit_loss}\n")

    outfile.write(f"Average Change:  ${average_profit_loss}\n")

    outfile.write(f"Greatest Increase in Profits:  {best_month} (${highest_change})\n")

    outfile.write(f"Greatest Decrease in Losses:  {worst_month} (${lowest_change})\n")
```

 Summary: Below are the results to my Python Inquiry. Out of the 86 months that this Data Covered these where the results.

Total Months: 86

Total Net Gross: $383,825.78

Average Change: $-2315.12

Greatest Increase in Profits: Feb-2012 ($19,261.59)

Greatest Decrease in Profits: Sep-2013 ($-21,961.67)