**TASK 1 - [DS\_SAMPLE.csv]**

- Using the dataset provided in DS\_SAMPLE.csv:

    1. For each "Type" in Column A:

        A- What is the count of "PO NUMBER" by "WHS"?

        B- What is the sum of "PALLET", "TOTAL CUBE", "TOTAL CASES", "TOTAL WGHT" by "VENDOR NUMBER"?

    2. Using the "SCHEDULE DATE":

        A- What is the mean of "PALLET" by day of the week?

        B- What is the average number of days between "CREATION DATE" & "SCHEDULE DATE"

        C- Using the information calculated in B, identify rows that you consider to be "outliers". Please comment on how you decided on what is and is not an outlier.

        D- Prepare a simple time series plot showing "TOTAL WGHT" over time

        E- For every "BYR", identify the "UPC" with the most "TOTAL CASES" ordered across time

**TASK 2 - [Basic OOP]**

- Using Python:

    1. Design a class with two variables, checking account and savings account

        - Create Functions to Deposit, Withdraw, and Transfer money between accounts

        - Design it so every transaction is recorded into a dictionary with the date and time of the transaction as the key, with account(s) involved & amounts as the values

    2. Once you have done that, do the following:

        - Deposit 1000 dollars in checking and 500 into savings

        - Transfer 500 from checking to savings

        - Deposit 250 to checking

        - Withdraw 500 from savings

        - Output the dictionary with all transactions

**TASK 3- [SQL\_SAMPLE.CSV]**

The sample file [SQL\_SAMPLE.csv] provides a dataset that is essentially joined from multiple sources - showing item data, yearly sales/cost data, location data and daily stocklevels.

Your goal is to:

  1. Insert the file into a SQLite database using Python

  2. Normalize the database within SQLite using SQL - create as many tables as you think are appropriate

  3. Utilize indexing on tables created in step 2

  4. Using SQL syntax, answer the following questions:

     - What are the top 3 selling products by Branch and Item #?

     - Calculate the 3-day moving average of DailyStocklevel by Branch and UPC

     - What is the lowest selling item for each group?

     - What is the best selling item for each branch by department?

  5. What can you tell us about the association between Item #s, PrimaryUPCs and UPCs?

  6. Feel free to add any other insights you gathered during this exercise.

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Top 10 buyers 买什么 金额

每个item , yearly profit

 Department net profit

Please submit your code along with any other relevant files generated during the tasks. Please also include files required to recreate your python environments. You can reach out via email if you have any questions about the above.