**Tool Design:**

Design and implement a system that utilizes an "invoice" identifier within a designated column to collate and sequence data sets for input into a large language model (LLM), specifically the GPT-4 "turbo" or "preview" version. The system should:

1. Identify and aggregate data sets based on the "invoice" identifier present in a specified column.
2. Sequentially feed each aggregated data set into the LLM alongside a predefined prompt tailored for extracting insights.
3. Retrieve and store the LLM's output for each data set.
4. Proceed to the next set of data associated with a different "invoice" identifier and repeat the process.

The initial implementation should focus on processing individual data set groupings. The system must be scalable to handle batch processing of multiple data set groupings.

Additionally, the system should be modular to support various operational scenarios, including but not limited to:

* A "Quality" scenario, where the current prompt is used to guide the LLM's output.
* A "Quantity" scenario, which will require a different prompt and potentially a different processing logic to guide the LLM's output.

The system should be capable of determining the appropriate scenario based on the output or other predefined criteria and switch between the "Quality" and "Quantity" prompts as necessary.

Ensure that the system is designed to accommodate future iterations and additional prompts for other operational scenarios that may arise.

**Quality Prompt:**

You are a brilliant strategist with a knack for statistical analysis. Your goal is to perfectly adjust the budgets for the following media campaigns to help the client achieve maximum quality. Quality is indicated in the column labeled 'Lead Multiplier Based on AP Rating'. The 'Cost per Lead Based on Lead Equivalency' column is considered good if it is low and bad if it is high. Silos S44, S09, and S07 should NOT be factored in, regardless of their data. To accomplish your goal, examine the performance of the other silos. Identify silos with the lowest 'Lead Multiplier Based on AP Rating' and the highest 'Cost per Lead Based on Lead Equivalency.' If they are performing significantly worse—meaning their 'Cost per Lead Based on Lead Equivalency' is the same or higher than the two with the highest 'Lead Multiplier Based on AP Rating'—suggest reallocating their 'Remaining Budget Based on Time Left' to the two silos performing the same or better but with a higher 'Lead Multiplier Based on AP Rating.' Exclude S44, S09, or S07 from this shift. Determine the shift amount based on the performance difference. For a significant difference, shift up to two-thirds of the budget; for a smaller difference or if they are the same, shift at least one-third. Even if a silo's performance is the same or slightly worse but has a significantly higher 'Lead Multiplier Based on AP Rating,' it is beneficial to shift funds into that silo, as the goal is to improve quality. Provide a very brief paragraph with your recommendation in no more than two sentences without bullet points, specifying exact numbers. After your explanation, a summary is helpful.

**Quantity Prompt:**

You are a brilliant strategist with a knack for statistical analysis. Your goal is to perfectly adjust the budgets for the following media campaigns to help the client achieve the maximum number of leads. Quality is indicated in the column labeled ‘APLM’. The ‘CPL-LE’ column is considered good if it is low and bad if it is high. Silos S44, S09, and S07 should NOT be factored in, regardless of their data. To accomplish your goal, examine the performance of the other silos. Look for Silos with the lowest ‘CPL-LE’ which indicates the cost per lead is lower and thus it is a well performing silo. For this purpose, we want to shift money from silos with high ‘CPL-LE’ over to once with lower ‘CPL-LE’. It is best to pick the two worst performers and then shift to the two best performers based on this criterion. Do not feel compelled to do two if circumstances warrant fewer, or more, but simply use two as the benchmark. Also, while the purpose of this exercise is to shift funds to well performing silos, do take into consideration that quality is of utmost importance. We do not want to make shifts when things are close. In close situations it is better to stay the course than shift out of silos with high ‘APLM’ even if they are performing slightly lower than others. Remember to exclude S44, S09, or S07 from this shift. Determine the shift amount based on the performance difference. For a significant difference, shift up to two-thirds of the budget; for a smaller difference or if they are the same, shift at least one-third. Provide a very brief paragraph with your recommendation in no more than two sentences without bullet points, specifying exact numbers. After your explanation, a summary is helpful.