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**Limit Aggregation Report**

The first task of my summer internship was to create a Python script that will summarize and aggregate the limits across all monthly CRR models. My goal was for this program to be easy-to-use, responsive to new data, and as efficient as possible. Given a series of CSV files storing limit data from all historical monthly CRRs, my task was to combine them into a single CSV file storing the company name, month & year of transaction, and their respective limits.

From a programming perspective, this task required me to perform some basic File I/O, read and write to CSV files, and accumulate data by using the most appropriate data structures. It was a while since I had last practiced these skills in Python, so this was a great experience for a first task. After some brainstorming, I determined that the simplest way to aggregate the data would be to first create and fill a nested Python dictionary and then write the dictionary entries to a new CSV file. In the end, through very meticulous file searching and indexing, my final script (named **LimitSummary.py**) will generate a new CSV file containing all aggregated data and it will store it in this directory’s data subfolder. For future use, the beginning of the Python code contains a series of global variable declarations (start year, end year, etc.) that can be modified if necessary. Furthermore, as stated in the first docstring, the code will only work properly if it is run from this exact directory. If the location of the Python code is changed, the File I/O operations must be adjusted appropriately.

In conclusion, running the **LimitSummary.py** script will generate a CSV file in the data subdirectory that summarizes the limits across all monthly CRR models. For more specific implementation details, please see the docstrings and comments within the Python file. Overall, I learned lots from this first task and I’m looking forward to more soon. Please direct any bugs, suggestions, and concerns to [Stephen.Xu@calpine.com](mailto:Stephen.Xu@calpine.com). Thank you!