Mane Global Capital Management Test

## Section 1: Practical Questions

Create a complete ETL pipeline in Python that uses an open-source iris dataset such Your pipeline should:

1. The two files contain data and dates.
   1. Please calculate 1y growth rates for the dates provided and save data to a csv named quarterly\_data.
   2. Describe the trend you see in the quarterly data
   3. Are there any other interesting trends in the data that you think may be of interest?
   4. What if I asked you how this data would perform over over the next few weeks, can you project based on historical trends?
2. Suppose now you get revised and incremental version of the data file. How would you update your original quarterly data file with the new data? What are some of your initial thoughts when you come across this task and how would you handle them?

## Section 2: Vue App

1. Can you build a Vue app static page using the CDN call. The page should display the quarterly table output and be formatted such that the header of the table is grey.

## Section 3: Theoretical Data Engineering & ETL Pipeline Questions

1. What are the three main stages of an ETL pipeline, and what are some challenges you might encounter at each stage?
2. Describe different approaches to transferring large volumes of data between systems. Consider batch processing and streaming data methods.
3. What are some common data transformation techniques and tools you have implemented in past projects, and how do you decide which technique to apply? Can you describe some challenges you faced in those projects?
4. How do ETL (Extract, Transform, Load) and ELT (Extract, Load, Transform) differ? In what scenarios would you choose one method over the other
5. Describe an experience where your pipeline was underperforming or causing system bottlenecks. What steps did you take to identify the performance issues, and what optimizations did you implement?
6. How do you or have you managed environment creation and python package management currently or previously in your role?