Technical Test

Business Intelligence Analytic Position

# Data Management

* Schema Design: Design a schema to store data in a data warehouse, and explain the rationale behind the chosen schema.
* Data Processing and Transformation: Process, clean, and transform the data according to the designed schema, and load it into the data warehouse.
* Write a summary report on data issues encountered during processing and storage.

# Python/SQL

Use either Python or SQL to answer the following questions:

* Total Bottles Sold per Year: Calculate the total number of bottles sold each year from 2017 to 2023.
* Top 3 Vendors per City: Identify the top three vendors (Vendor Name) with the highest sales (by bottle count) in each city.
* Sales Analysis by Category: Analyze the sales trends for the top-selling wine categories (Category Name) year by year.
* Top Stores by Sales per City: Identify the stores (Store Name) with the highest wine sales in each city in the most recent year (2023).
* Vendor Sales Share: Calculate the percentage of total sales for each vendor (Vendor Name) compared to the overall sales of all vendors across the entire time period (2017-2023).

# Build Dashboard

* Choose a BI tool such as Power BI, Looker, Tableau… to build Sales Dashboard from the data provided.

# Submission Requirements

* Python Code: Submit in .py format
* SQL Code: Submit in .sql or .txt format
* Report: Submit in a Word file
* Schema Diagram: Submit in .png or .img format
* Dashboard: file or link available access
* Compress all files and name as: CANDIDATE\_NAME.zip
* If using a Notebook: Submit a .ipynb file with all task outputs included

# Evaluation criteria

* Schema Design: Ensure completeness, optimization for performance, scalability, and clear explanations.
* Data Processing & Transformation: Data should be accurately cleaned, transformed, and loaded efficiently, with error handling and detailed descriptions.
* Technical Skills (Python/SQL): Logic, efficiency, readability, and accurate results.
* Data Reporting: Highlight data issues clearly, with suggested solutions.