

Data Analyst / Engineer Take Home Test

Objective

Build a data pipeline using **Mage.ai on your local computer** (<https://www.mage.ai/>) to generate a data mart for sales reporting.

The goal is to produce a dashboard or report that includes:

- daily sales trends
- weekly sales trends
- Year-To-Date (YTD) sales.

Each report should show metrics such as **gross revenue**, **total discount applied**, **cost of goods sold (COGS)**, and **net profit**.

Dataset

The data source is available in the following Google Spreadsheet: [Dataset Link](#). Please download the dataset and make a local copy for the take home test.

Relationships and Assumptions:

- **Menu and Order**

The **menu_id** in the **order** table links to the **menu_id** in the **menu** table.

- **Order and Promotion**

The **sales_date** in the **order** table can be used to determine if any promotions were applicable during the sale.

- **Profit Calculation**

For calculating profit, the price and COGS value are taken from the effective date corresponding to the sales date.

Instructions

Pipeline Development

- Use Mage.ai to build a data pipeline.
- Use local file option for the data loader and data exporter
- Transform the data to create a data mart that includes daily sales trends, weekly sales trends, and MTD sales.
- Load the transformed data into a data warehouse or any appropriate storage solution before being used for reporting.

Reporting

- Create a simple dashboard to present the sales data to end users (business users).
- The dashboard should include the following metrics:
 - Gross Revenue: Total sales amount before any discounts.
 - Total Discount Applied: Sum of discounts applied to the sales.
 - COGS: Total cost of goods sold based on the effective date.
 - Net Profit: Gross revenue minus COGS and total discount applied.
- You may use any tool for the dashboard / reporting, such as Excel, Looker, Streamlit, etc.

Timeline

Duration: Max. 2 weeks.

Final Presentation: Schedule a 1-hour final interview call with the recruiter to present the pipeline and dashboard.

Presentation

- If you have completed the take-home test, please contact the recruiter through [WhatsApp at 0812-6832-8817](https://www.whatsapp.com/channel/0029981268328817) so we can schedule the final presentation for you.
- During the presentation, you are expected to present the pipeline and dashboard. You should explain your thought process on why you built the data pipeline in the way you did, and describe any methods you applied while working on the take-home test.
- You **DO NOT** have to prepare slides for the presentation. Please structure your presentation as follows:
 - Show the dashboard/reporting (explain why and how)
 - Show your pipeline (explain why and how)