Attribute Data Home Assignment

In the task you can use any database infrastructure you would like. A free, super simple one we recommend of is: https://app.csvsql.online/

Datasets Provided:

- accounts.csv account and company details
- usage.csv monthly compute, storage, and network usage
- billing.csv billing details with cost and discounts

Goal

This assignment simulates that you'll work with synthetic B2B usage and billing data to:

1. Find insights about customer profitability and usage behavior
2. Build a short dashboard or visual report
3. Automate one analytic

Part 1: Insights & Visualization (~2 hours)

Your tasks

1. **Load and explore the data**
2. **Analyze and visualize**
   Create a few simple visualizations or summary tables (in Python, SQL, or a BI tool) that answer these questions:

   A. Profitability & Growth

   B. Usage Behavior

   C. Risk or Opportunity

3. **Deliverable**
    - A **short dashboard or notebook** (4 visuals max)
    - A **one-paragraph summary** of your findings (focus on insights, not code)

Part 2: Anomaly Detection (~1 hour)

Goal

Anomaly detection helps identify unexpected changes in cloud cost or usage. For example, a sudden cost spike for a single customer, or a drop in usage suggesting churn or configuration failure.

You'll use SQL to find one significant anomaly that could alert the FinOps or Customer Success team.

Part 3: Bonus - Automation Challenge (~0.5 hour)

Turn your Part 2 anomaly (the SQL you wrote) into a repeatable Python automation that detects that anomaly directly from one of the CSV files.

Overall Deliverables

Please submit:

1. Your analysis (notebook, SQL queries, or BI dashboard link)
2. Anomaly detection SQL and explanation of the anomaly
3. Anomaly automation script (Python or other relevant language)