Mini Data Analysis & Reporting Activity

Objective

This activity aims to help you experience how operational (OLTP) data can be transformed into analytical (OLAP) insights. By working with a transactional dataset, you will analyze data, summarize findings, and communicate insights through a written report and class presentation.

Dataset Assignment
- The class will be divided into pairs.
- Each pair will be assigned one dataset from the seven (7) available datasets.
- Each dataset represents transactional (operational) data from a different scenario.

Note:
Each pair works only on their assigned dataset.

INSTRUCTIONS

Part 1 – Understanding the Dataset (OLTP Perspective)
Using your assigned dataset, discuss and include the following in your report:

- What does one row in the dataset represent?
- Why is this dataset considered operational (OLTP) data?
- What type of operational system would typically store this data?

Write your answers in short, clear paragraphs.

Part 2 – Data Analysis (OLAP Perspective)
Using Google Sheets or Excel or Google Colab, perform the following analyses:
- Compute the total number of transactions per category
   (e.g., per program, department, product, or customer type)
- Compute the total number of transactions per time period
   (e.g., per semester, month, or year)
- Perform at least one additional summary or aggregation that you believe provides useful insight

You may use:
- Pivot tables
- Grouping and counting
- Basic formulas (COUNT, SUM, etc.)

Include tables or screenshots of your analysis in the report.

Part 3 – Analytical Findings

Based on your analysis, answer the following:
- What patterns or trends can you observe in the data?
- Which category shows the highest activity or volume, and why?
- What insights can be drawn from the summarized data?
- If you were part of management, what decision or recommendation would you make based on your findings?

Focus on interpretation and explanation, not just numbers.

WRITTEN REPORT TEMPLATE

Your report should follow this structure:

1. Title Page
- Activity title
- Dataset name
- Names of both students

2. Introduction
- Brief description of the dataset
- Context of the data (what kind of operational system it came from)

3. OLTP Perspective
- Explanation of why the dataset is transactional
- Description of what each record represents

4. Data Analysis (OLAP Results)
- Summary tables or screenshots
- Brief explanation of each analysis performed

5. Findings and Insights
- Key observations
- Trends and patterns
- Business insights derived from the data

6. Recommendation
- One or more suggested decisions or actions based on your analysis

Length: 5-10 pages
Format: PDF

CLASS PRESENTATION

Each pair will present their findings in front of the class.

Presentation Guidelines

- Duration: 5–10 minutes per pair
- Slides should include:
    - Brief dataset overview
    - Methodology
    - Key analysis results (tables or charts)
    - Main findings and insights
    - Recommendation

Q&A Session

- After each presentation, classmates may ask questions
- Presenters should be ready to explain and defend their analysis and conclusions
- The goal is discussion and learning, not perfection.

Submission Details

- Written Report: Upload to Daigler
- Presentation Slides: Upload before or after your presentation (as instructed)
- File Naming Format:
    Lastname1_Lastname2_MiniDataAnalysis.pdf
- *Due Date: February 8, 2025 at 12:00 AM*

Important Notes

- This activity is not a programming task.
- Focus on analysis, reasoning, and communication.
- There is no single correct answer—your interpretation matters.
- Academic honesty is expected at all times.

Groupings:

students social media addiction (7)
Mamac, Ira Zaky Orquillas
Nuril, Nazz Reah Andapang

retail_transaction dataset (4)
Solano, Charles Andrew Bergonia
Lamsin, Francis Micku Estilong

Amazon dataset (1)
Sulit, Zachary Lorenzo Fabian
Mariano, Ronalyn Llaneta

cause of deaths (5)
Alcantara, Sophia Ysabelle
Barsomo, James Marc Montecastro

fraud detection transactions dataset (2)
Dayot, Cleriza Ogoc
Basong, Kobe Nice Macalipay

car prices (6)
Dampal, Justin Louis Amper
Duetes, Greg Danielle Cabanda

Big Black Money Dataset (3)
Corpuz
Faberes