

Data Analyst Intern Assignment

Overview

You are provided with three datasets covering a two-week period:

1. Events Data

- user_id
- event_date (format: YYYYMMDD)
- event_name

2. Orders Data

- order_id
- customer_id
- order_date
- order_status
- net_sales
- disc%

3. Customers Data

- customer_id
- registered_date
- city
- acq_channel

Your task is to clean, analyze, and visualize the data to answer the questions below.

Question 1: Data Cleaning & Preparation

Prepare the datasets so they are ready for analysis.

Requirements

- Convert event_date and order_date into proper date format.
- Remove duplicate records (if any).
- Filter only **valid orders** (order_status = 'valid').
- Ensure customer_id and user_id fields are consistent and usable for joins.

Deliverable

- Brief description of cleaning steps performed.
 - Cleaned dataset or code used for cleaning.
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Question 2: User Engagement → Purchase Funnel

Analyze how user engagement translates into purchases.

Requirements

- Count unique users who triggered any event.
- Count users who placed at least one valid order.
- Calculate the conversion rate:

Conversion Rate = Users who ordered ÷ Users with events

- Create a daily trend visualization showing:
 - active users
 - ordering customers

Deliverable

- Funnel metrics summary.
 - One time-series chart.
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Question 3: Customer Behavior Insight

Identify one meaningful insight from customer purchasing behavior.

Requirements

- Join customers and orders data.
- Analyze orders by:
 - acquisition channel
 - city
- Identify either:
 - the acquisition channel generating the highest revenue, **or**
 - the city with the highest average order value.

Deliverable

- One bar chart visualization.
 - 2–3 lines explaining the key insight.
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Submission Guidelines

- Submit a notebook, spreadsheet, or document with:
 - cleaning steps
 - calculations
 - visualizations
 - brief interpretations
 - Keep explanations concise and clear.
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Note: Assumptions made during analysis should be clearly stated.