

Capstone Project

Project Code: KL-CAP-001

Client: Urban Trends Retail (Fictional)

Date: December 17, 2025

Client Background: UrbanTrends Retail is a UK-based online retailer selling unique all-occasion gifts. With over 1,000,000 rows of raw transaction data, the CEO suspects significant revenue leakage due to "ghost data," cancellations, and pricing errors.

Section A: Data Hygiene

- **Problem A1: Identifying Ghost Data.** Quantify the scale of missing values in the Customer ID field to determine the percentage of failed or guest transactions.
- **Problem A2: Isolating Cancellations.** Segment all invoice numbers prepended with 'C' into a dedicated "cancelled_orders" table to prevent revenue skewing.
- **Problem A3: Price Validation.** Identify and analyze transactions with a UnitPrice of \$0.00 to distinguish between "free gifts," test products, and manual entry errors.

Section B: Revenue Intelligence

- **Problem B1: Quarterly & Monthly Performance.** Aggregate total revenue by month and visualize quarterly growth metrics to identify high-performing seasons.
- **Problem B2: The "Power SKU" List.** Identify the Top 10 best-selling products based on total revenue generated rather than unit volume.
- **Problem B3: High-Value Customer Identification.** Identify the Top 5 customers by total spend within the 2011 fiscal year for loyalty targeting.
- **Problem B4: Geographic AOV Analysis.** Calculate the Average Order Value (AOV) for all international markets (excluding the UK) to find the highest-spending regions.

Section C: Executive Reporting

- **Problem C1: Lifetime Net Revenue.** Calculate the total "clean" revenue for the business, excluding all cancellations and error entries.

- **Problem C2: Revenue Trend Analysis.** Produce a longitudinal trend line of monthly revenue from 2009 to 2011 to identify cyclical sales patterns.

3. Final Deliverable A comprehensive audit report summarizing these findings and a GitHub repository containing the sanitized SQL scripts.