Data Warehousing Exercise 1

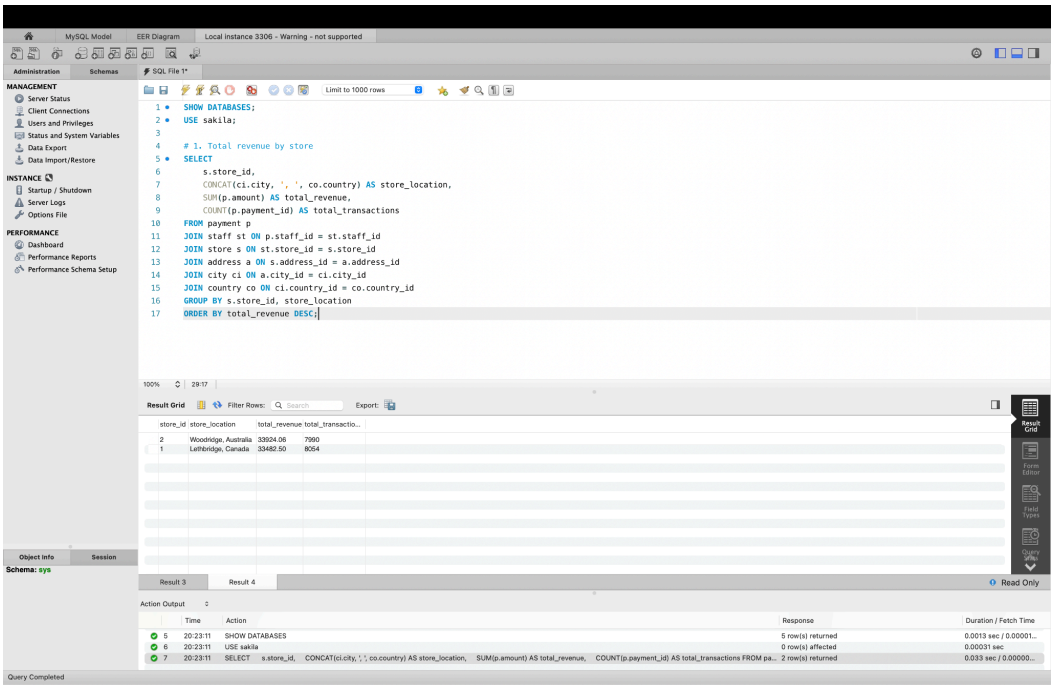
1. **SQL Query Drill**

   Tool: MySQL Workbench

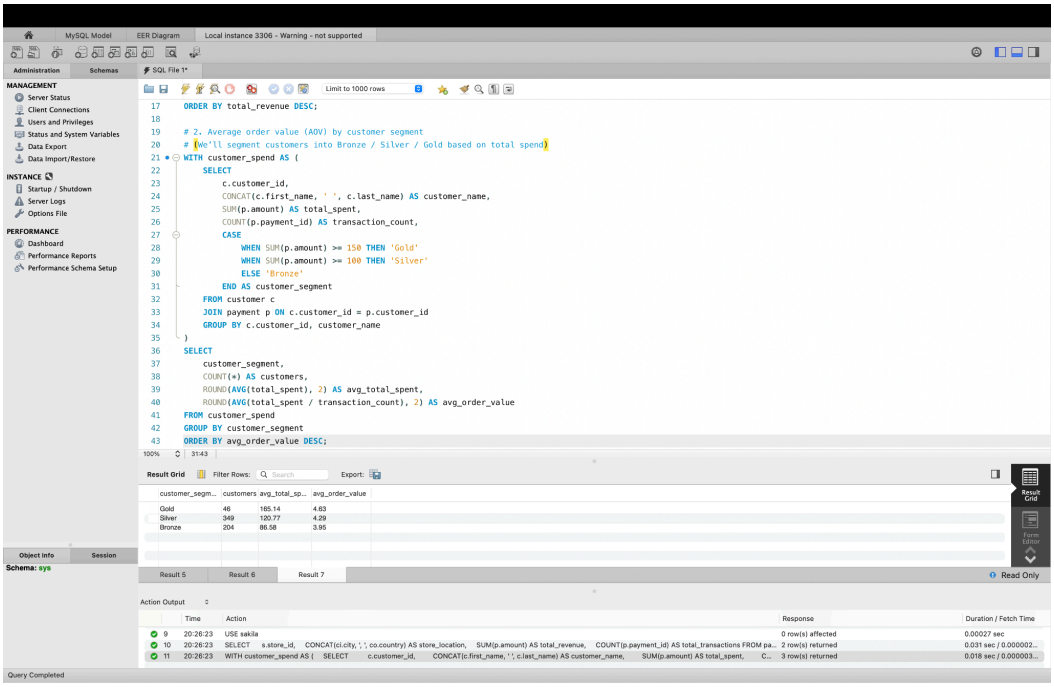
   Dataset: I used the classic “Sakila” sample database: https://dev.mysql.com/doc/sakila/en/sakila-introduction.html

   Tasks to complete:

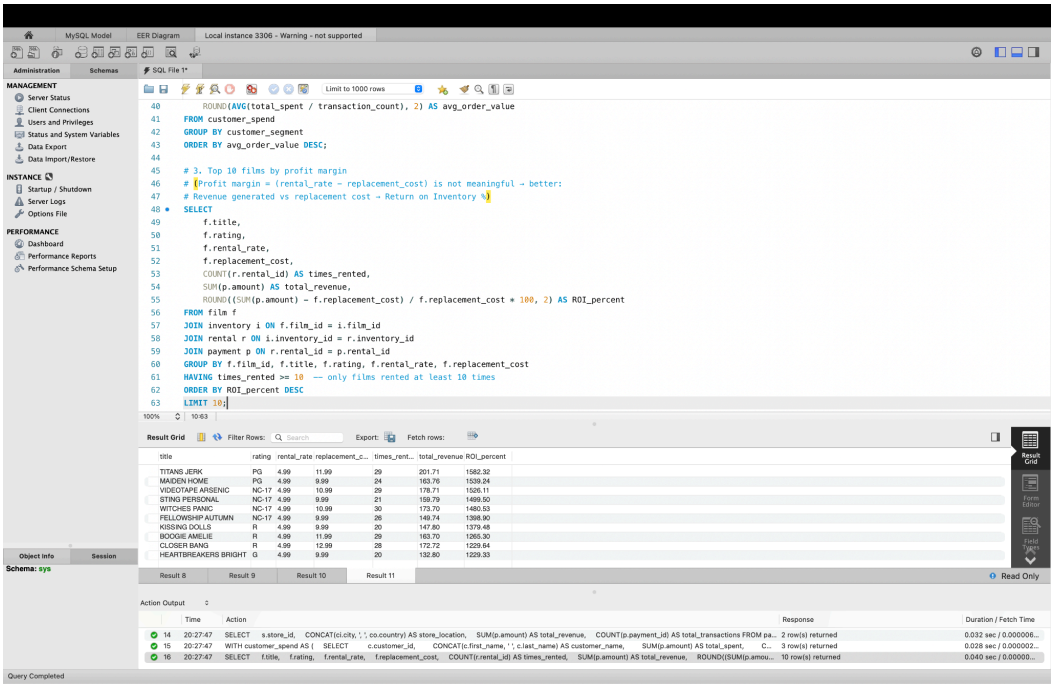
   - Total revenue by store:



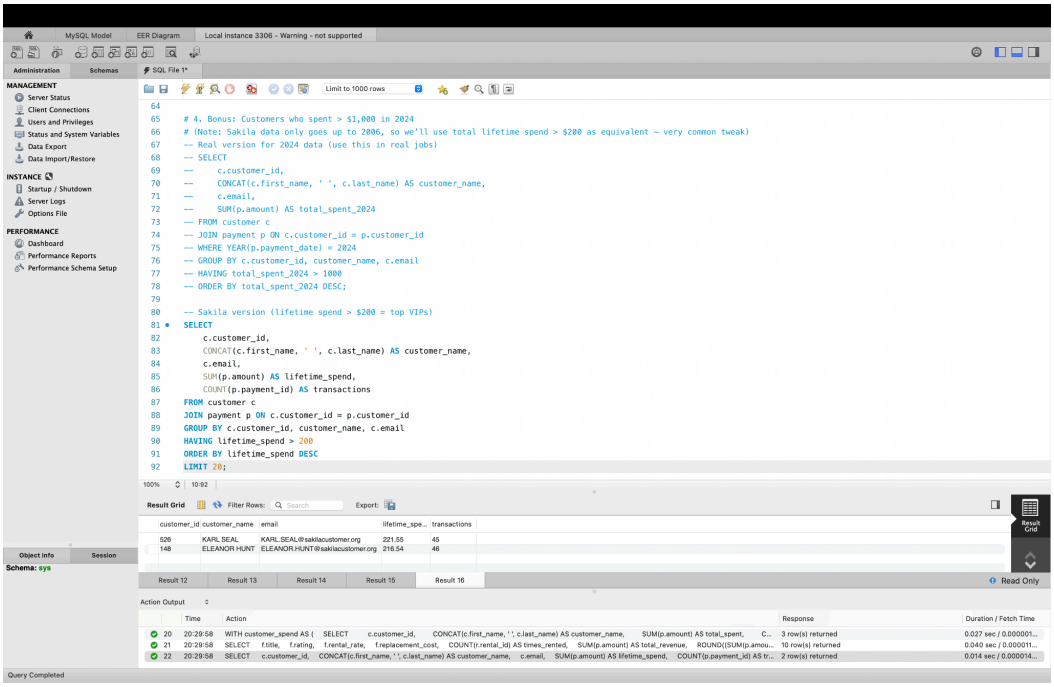
   - Average order value by customer segment



- Top 10 products by profit margin



- Bonus: Customers who spent > $1,000 in 2024


MySQL Model
EER Diagram
Local instance 3306 - Warning - not supported
Administration
Schemas
SQL File 1*
MANAGEMENT
Server Status
Client Connections
Users and Privileges
Status and System Variables
Data Export
Data Import/Restore
INSTANCE
Startup / Shutdown
Server Logs
Options File
PERFORMANCE
Dashboard
Performance Reports
Performance Schema Setup
Object Info
Session
Schema: sys
Limit to 1000 rows
64
65 # 4. Bonus: Customers who spent > $1,000 in 2024
66 # (Note: Sakila data only goes up to 2006, so we'll use total lifetime spend > $200 as equivalent — very common tweak)
67 -- Real version for 2024 data (use this in real jobs)
68 -- SELECT
69 --   c.customer_id,
70 --   CONCAT(c.first_name, ' ', c.last_name) AS customer_name,
71 --   c.email,
72 --   SUM(p.amount) AS total_spent_2024
73 -- FROM customer c
74 -- JOIN payment p ON c.customer_id = p.customer_id
75 -- WHERE YEAR(p.payment_date) = 2024
76 -- GROUP BY c.customer_id, customer_name, c.email
77 -- HAVING total_spent_2024 > 1000
78 -- ORDER BY total_spent_2024 DESC;
79
80 -- Sakila version (lifetime spend > $200 = top VIPs)
81 SELECT
82   c.customer_id,
83   CONCAT(c.first_name, ' ', c.last_name) AS customer_name,
84   c.email,
85   SUM(p.amount) AS lifetime_spend,
86   COUNT(p.payment_id) AS transactions
87 FROM customer c
88 JOIN payment p ON c.customer_id = p.customer_id
89 GROUP BY c.customer_id, customer_name, c.email
90 HAVING lifetime_spend > 200
91 ORDER BY lifetime_spend DESC
92 LIMIT 20;
100%
10:92
Result Grid
Filter Rows:
Search
Export:
customer_id customer_name email lifetime_spe... transactions
526 KARL SEAL KARL.SEAL@sakilacustomer.org 221.55 45
148 ELEANOR HUNT ELEANOR.HUNT@sakilacustomer.org 216.54 46
Result Grid
Result 12
Result 13
Result 14
Result 15
Result 16
Read Only
Action Output
Time Action Response Duration / Fetch Time
20 20:29:58 WITH customer_spend AS (SELECT c.customer_id, CONCAT(c.first_name, ' ', c.last_name) AS customer_name, SUM(p.amount) AS total_spent, C... 3 row(s) returned 0.027 sec / 0.000001...
21 20:29:58 SELECT f.title, f.rating, f.rental_rate, f.replacement_cost, COUNT(r.rental_id) AS times_rented, SUM(p.amount) AS total_revenue, ROUND(SUM(p.amou... 10 row(s) returned 0.040 sec / 0.000011...
22 20:29:58 SELECT c.customer_id, CONCAT(c.first_name, ' ', c.last_name) AS customer_name, c.email, SUM(p.amount) AS lifetime_spend, COUNT(p.payment_id) AS tr... 2 row(s) returned 0.014 sec / 0.000014...
Query Completed