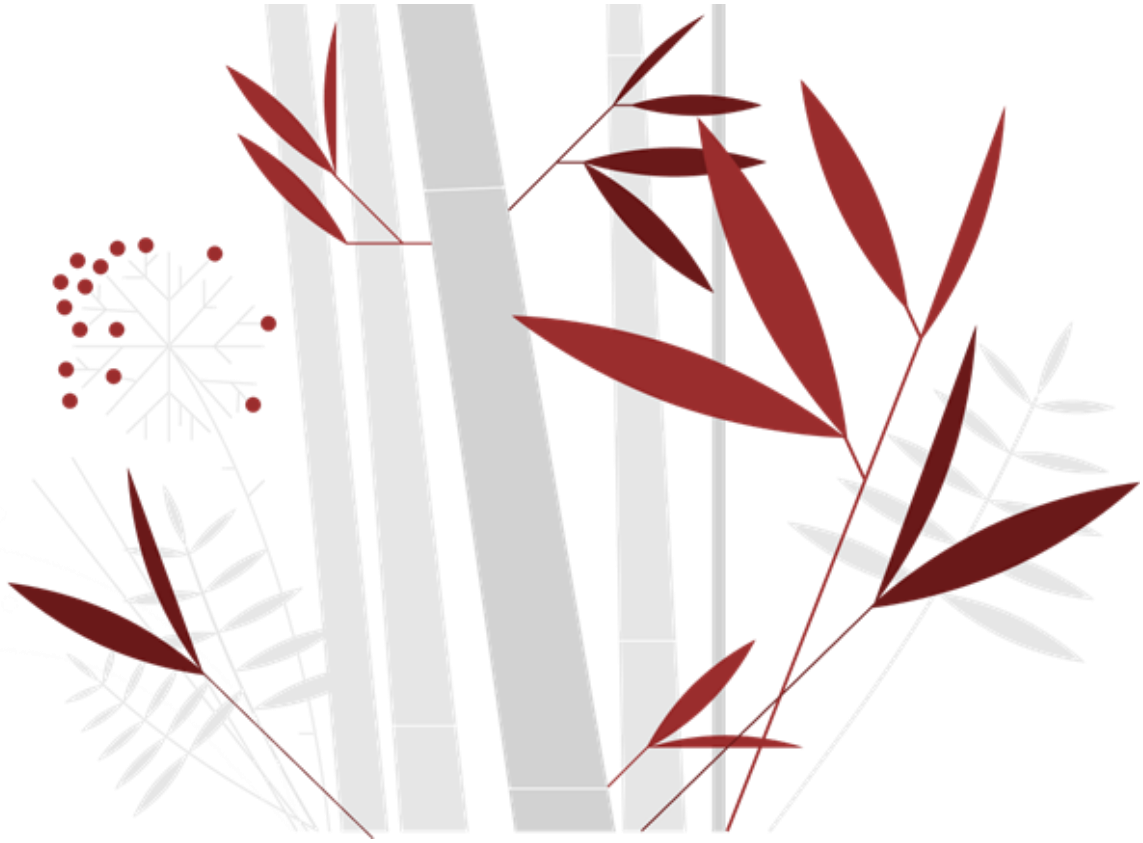
STRUCTURED QUERY LANGUAGE (SQL) PROJECT-CODED

BY

Harsh Patel

11th August 2024

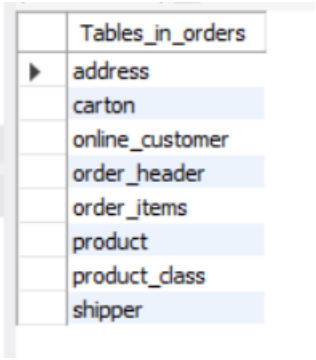


Problem-: Reliant Retail Limited

You are hired by a chain of online retail stores **"Reliant retail limited"**. They provide you with "**orders**" database and seek answers to the following queries as the results from these queries will help the company in making data-driven decisions that will impact the overall growth of the online retail store.

Pre-Processing:

First of all, we will load the orders database in the MySQL as per requirement and use the command USE orders to activate the orders schema. Then use SHOW TABLE command to see how many tables are present in the database.



Tables_in_orders
address
carton
online_customer
order_header
order_items
product
product_class
shipper

Fig-1 Number of Tables

[NOTE: - All the Output you will see are the first few rows for some of the question that we will give answer to as we only want to get the idea of the result we got in our query when we answered our question to as there could be thousands of rows and it is impossible to show all of them in a screenshot.]

Now, Answer the following questions:

Q-1) Write a query to display customer full name with their title (mr/ms), both first name and last name are in upper case with customer email id, customer creation date and display customer's category

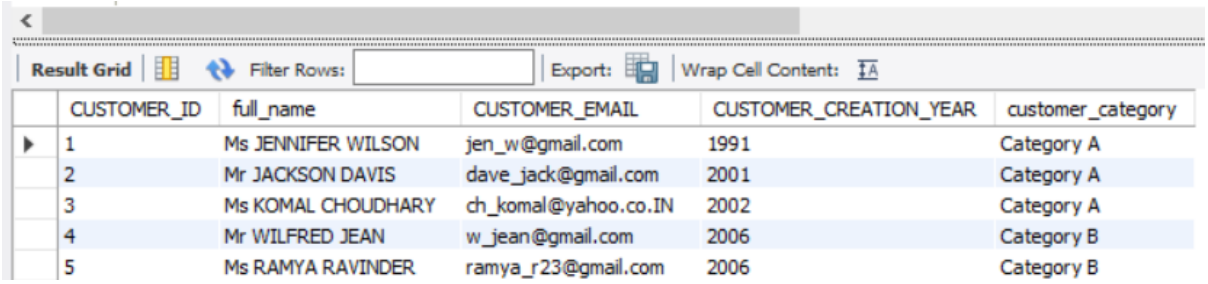
After applying below categorization rules:

i. If customer creation date year <2005 then category a

ii. If customer creation date year >=2005 and <2011 then category b

iii. If customer creation date year>= 2011 then category c

A-1) The following output result for this query is shown in Table-1 below:



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

CUSTOMER_ID	full_name	CUSTOMER_EMAIL	CUSTOMER_CREATION_YEAR	customer_category
1	Ms JENNIFER WILSON	jen_w@gmail.com	1991	Category A
2	Mr JACKSON DAVIS	dave_jack@gmail.com	2001	Category A
3	Ms KOMAL CHOUDHARY	ch_komal@yahoo.co.IN	2002	Category A
4	Mr WILFRED JEAN	w_jean@gmail.com	2006	Category B
5	Ms RAMYA RAVINDER	ramya_r23@gmail.com	2006	Category B

Table-1 Output result for Q-1

Q-2) Write a query to display the following information for the products, which have not been sold: product_id, product_desc, product_quantity_avail, product_price, inventory values(product_quantity_avail*product_price), new_price

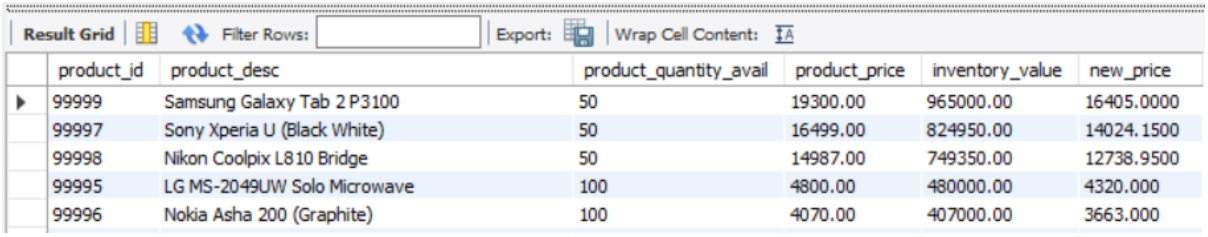
After applying discount as per the below criteria. Sort the output concerning the decreasing value of inventory_value.

i. If product price > 20,000 then apply 20% discount

ii. If product price > 10,000 then apply 15% discount

iii. If product price =< 10,000 then apply 10% discount

A-2) The following output result for this query is shown in Table-2 below:

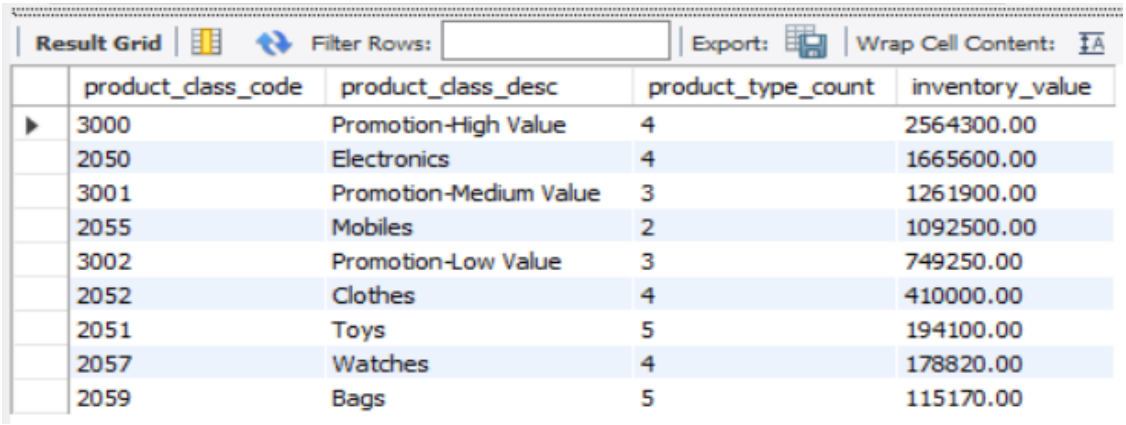


product_id	product_desc	product_quantity_avail	product_price	inventory_value	new_price
99999	Samsung Galaxy Tab 2 P3100	50	19300.00	965000.00	16405.0000
99997	Sony Xperia U (Black White)	50	16499.00	824950.00	14024.1500
99998	Nikon Coolpix L810 Bridge	50	14987.00	749350.00	12738.9500
99995	LG MS-2049UW Solo Microwave	100	4800.00	480000.00	4320.000
99996	Nokia Asha 200 (Graphite)	100	4070.00	407000.00	3663.000

Table-2 Output result for Q-2

Q-3) write a query to display product_class_code, product_class_description, count of product type in each product class, and inventory value (p.product_quantity_avail*p.product_price). Information should be displayed for only those product_class_code that have more than 1,00,000 inventory value. sort the output concerning the decreasing value of inventory_value.

A-3) The following output result for this query is shown in Table-3 below:

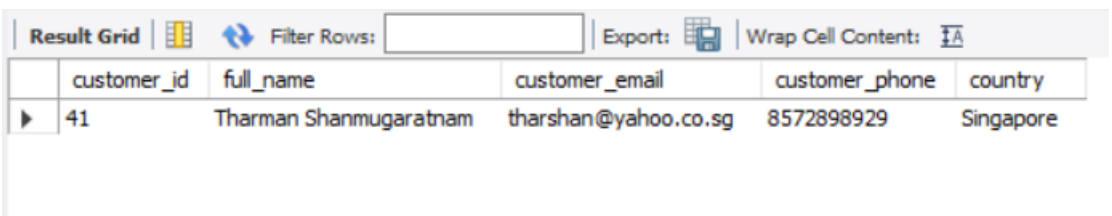


product_class_code	product_class_desc	product_type_count	inventory_value
3000	Promotion-High Value	4	2564300.00
2050	Electronics	4	1665600.00
3001	Promotion-Medium Value	3	1261900.00
2055	Mobiles	2	1092500.00
3002	Promotion-Low Value	3	749250.00
2052	Clothes	4	410000.00
2051	Toys	5	194100.00
2057	Watches	4	178820.00
2059	Bags	5	115170.00

Table-3 Output result for Q-3

Q-4) Write a query to display customer_id, full name, customer_email, customer_phone and country of customers who have cancelled all the orders placed by them

A-4) The following output result for this query is shown in Table-4 below:



customer_id	full_name	customer_email	customer_phone	country
41	Tharman Shanmugaratnam	tharshan@yahoo.co.sg	8572898929	Singapore

Table-4 Output result for Q-4

Q-5) Write a query to display shipper name, city to which it is catering, number of customer catered by the shipper in the city and number of consignments delivered to that city for shipper dhl

A-5) The following output result for this query is shown in Table-5 below:

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

SHIPPER_NAME	CITY	NUM_CUSTOMERS	NUM_CONSIGNMENTS
DHL	Abington	1	1
DHL	Amherst	1	1
DHL	Bangalore	3	5
DHL	Birmingham	1	1
DHL	Brooklyn	1	1
DHL	Dharmapuri	1	1
DHL	Hosur	1	1
DHL	Hyderabad	2	2
DHL	W. Alibio	1	1

Table-5 Output result for Q-5

Q-6) Write a query to display customer id, customer full name, total quantity and total value (quantity*price) shipped where mode of payment is cash and customer last name starts with 'g'

A-6) The following output result for this query is shown in Table-6 below:

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	customer_full_name	total_quantity	total_value
6	Anita Goswami	25	93237.00
24	Brian Grazer	4	4010.00

Table-6 Output result for Q-6

Q-7) Write a query to display order_id and volume of biggest order (in terms of volume) that can fit in carton id 10

A-7) The following output result for this query is shown in Table-7 below:

order_id	volume
10064	14988000
10033	12350000
10036	7636875
10042	7632000
10058	7632000
10025	7240500

Table-7 Output result for Q-7

Q-8) Write a query to display product_id, product_desc, product_quantity_avail, quantity sold, and show inventory status of products

As below as per below condition:

a. For electronics and computer categories,

i. If sales till date is zero then show 'no sales in past, give discount to reduce inventory',

ii. If inventory quantity is less than 10% of quantity sold, show 'low inventory, need to add inventory',

iii. If inventory quantity is less than 50% of quantity sold, show 'medium inventory, need to add some inventory',

iv. If inventory quantity is more or equal to 50% of quantity sold, show 'sufficient inventory'

b. For mobiles and watches categories,

i. If sales till date is zero then show 'no sales in past, give discount to reduce inventory',

ii. If inventory quantity is less than 20% of quantity sold, show 'low inventory, need to add inventory',

iii. If inventory quantity is less than 60% of quantity sold, show 'medium inventory, need to add some inventory',

iv. If inventory quantity is more or equal to 60% of quantity sold, show 'sufficient inventory'

c. Rest of the categories,

i. If sales till date is zero then show 'no sales in past, give discount to reduce inventory',

ii. If inventory quantity is less than 30% of quantity sold, show 'low inventory, need to add inventory',

iii. If inventory quantity is less than 70% of quantity sold, show 'medium inventory, need to add some inventory',

iv. If inventory quantity is more or equal to 70% of quantity sold, show 'sufficient inventory'

A-8) The following output result for this query is shown in Table-8 below:

PRODUCT_ID	PRODUCT_DESC	PRODUCT_QUANTITY_AVAIL	QUANTITY_SOLD	AVAILABLE_QUANTITY	INVENTORY_STATUS
201	Sky LED 102 CM TV	180	6	174	Sufficient inventory
202	Sams 192 L4 Single-door Refrigerator	90	6	84	Sufficient inventory
203	Jocky Speaker Music System HT32	57	3	54	Sufficient inventory
204	Cricket Set for Boys	70	10	60	Sufficient inventory
205	Infant Sleepwear Blue	150	7	143	Sufficient inventory

Table-8 Output result for Q-8

Q-9) Write a query to display product_id, product_desc and total quantity of products which are sold together with product id 201 and are not shipped to city bangalore and new delhi. Display the output in descending order concerning tot_qty.

A-9) The following output result for this query is shown in Table-9 below:

PRODUCT_ID	PRODUCT_DESC	total_quantity
218	Shell Fingertip Ball Pen	20
219	Ruf-n-Tuf Black PU Leather Belt	4
201	Sky LED 102 CM TV	3
216	External Hard Disk 500 GB	3
233	HP ODC School Bag 2.5'	3
207	Remote Control Car	2
204	Cricket Set for Boys	2
206	Barbie Fab Gown Doll	2
243	Supreme Fusion Cupboard 02TB	2
202	Sams 192 L4 Single-door Refrigerator	1
212	Samsung Galaxy On6	1
214	Harry Potter	1
203	Jocky Speaker Music System HT32	1
221	Cybershot DWC-W325 Camera	1

Table-9 Output result for Q-9

Q-10) Write a query to display the order_id,customer_id and customer fullname and total quantity of products shipped for order ids which are even and shipped to address where pincode is not starting with "5"

A-10) The following output result for this query is shown in Table-10 below:

order_id	customer_id	customer_full_name	total_quantity_of_products	pincode
10002	2	Jackson Davis	16	560172
10004	5	Ramya Ravinder	6	560005
10006	6	Anita Goswami	15	570019
10008	7	Ashwathi Bhatt	25	110013
10010	6	Anita Goswami	11	570019
10012	2	Jackson Davis	23	560172

Table-10 Output result for Q-10

Learning Outcome:

- We learned how to Set up MySQL, learned how to understand data by data filtering and data manipulation.
- We learned how to select data using select, limit, distinct, insert, update, delet etc, commands.
- We learned how to filter the data using where, having, in, between, like, etc, commands.
- We learned how to aggregate data using groub by, order by, case when, sum-count-max-min-avg, etc commands.
- We learned how to join data using inner, left, right, full, self, union, union all, etc. Commands
- We learned some windows functions like rank, lead, lag, row_number, Dense_rank etc.
- We learned the how to write and structure the SQL codes and indentations to get the desired outputs.