

STRUCTURED QUERY LANGUAGE BUSINESS REPORT

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Project Problem Statement:

I have been hired by a chain of online retail stores “**Reliant retail limited**” to analyze their “**orders**” database. They seek answers to the following queries, which will help the company make data-driven decision to impact the overall growth of the online retail store positively.

Question1- 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:

- If customer creation date year <2005 then category a
- If customer creation date year >=2005 and <2011 then category b
- If customer creation date year >= 2011 then category c

Ans-

	FULL_NAME	CUSTOMER_EMAIL_ID	CUSTOMER_CREATION_DATE	CATEGORY
▶	MS. JENNIFER WILSON	jen_w@gmail.com	1991-06-01	CATEGORY A
	MR. JACKSON DAVIS	dave_jack@gmail.com	2001-06-12	CATEGORY A
	MS. KOMAL CHOUDHARY	ch_komal@yahoo.co.IN	2002-06-26	CATEGORY A
	MR. WILFRED JEAN	w_jean@gmail.com	2006-01-12	CATEGORY B
	MS. ANITA GOSWAMI	agoswami@gmail.com	2006-03-13	CATEGORY B
	MS. ASHWATHI BHATT	ash_bhat@yahoo.co.IN	2007-04-15	CATEGORY B
	MS. NEETHA CASTELINA	neetha20@gmail.com	2011-08-16	CATEGORY C
	MS. DEVIKA SATISH	devika_sa@gmail.com	2011-09-01	CATEGORY C
	MS. BIDHAN C.ROY	bidhanroy@yahoo.co.in	2011-10-23	CATEGORY C
	MR. VIKAS JHA	vikas.jha@gmail.com	2011-11-15	CATEGORY C
	MR. ARUL KUMAR.T	arulkuamr@gmail.com	2011-12-03	CATEGORY C
	MR. RAVI SRINIVASN	r_srinivasn@yahoo.co.in	2012-01-05	CATEGORY C
	MR. AVINASH DUTTA	avinash.dutta@yahoo....	2012-01-18	CATEGORY C
	MS. JYOTI SINHA	jyotisinha@gmail.com	2012-01-31	CATEGORY C
	MR. VIJAY BOLLINENI	vbollineni@gmail.com	2012-02-06	CATEGORY C
	MR. PRASAD SHETTY	pshetty@yahoo.co.in	2012-02-26	CATEGORY C
	MR. SURESH BABU	sbabu@yahoo.co.in	2012-03-01	CATEGORY C
	MS. BHARTI SUBHASH	bhartis@gmail.com	2012-03-28	CATEGORY C
	MR. KESHAV JOG	kesjog@yahoo.co.in	2012-04-06	CATEGORY C
	MS. RAMYA RAVINDER	ramya_r23@gmail.com	2006-02-12	CATEGORY B

Table 1

Explanation: : I have used online_customer table, used case statement, and there are no permanent changes required in the table for answering the question from ‘**Orders**’ database.

Customers who joined between 1991 and 2002 they are categorized in category A, those who are joined between 2006 and 2011 they are categorized in category B, and also those customers who are joined between 2011 and 2016 they are categorized in category C.

Most of the customers are using Gmail instead of Yahoo for their email address.

Question2- 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.

- If product price > 20,000 then apply 20% discount
- If product price > 10,000 then apply 15% discount
- If product price <= 10,000 then apply 10% discount

Ans-

	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	4320.0000
	99996	Nokia Asha 200 (Graphite)	100	4070.00	407000.00	3663.0000
	99994	HP Deskjet 2050 All-in-One - J510a Printer	100	3749.00	374900.00	3374.1000
	99991	Dell Targus Synergy 2.0 Backpack	250	999.00	249750.00	899.1000
	99992	Tom Clancy's Ghost Recon: Future Soldier (PC Game)	250	999.00	249750.00	899.1000
	99993	Nokia 1280 (Black)	250	999.00	249750.00	899.1000
	99990	Quanta 4 Port USB Hub	50	500.00	25000.00	450.0000
	230	Esprit Analog Watch	5	3495.00	17475.00	3145.5000
	249	All-in-one Board Game	20	450.00	9000.00	405.0000
	250	Huwi Wi-Fi Receiver 500Mbps	30	287.00	8610.00	258.3000

Table 2

Explanation: : I have used product and order_item tables, used case statement, and there are no permanent changes required in the table for answering the question from 'Orders' database.

Samsung Galaxy Tab 2 P3100, Sony Xperia U (Black White), and Nikon Coolpix L810 have available 50units each. Electronic items like LG MS-2049UW Solo Microwave and Nokia Asha 200(Graphite) have available 100 units. There are no any product present greater than 20000 price only Samsung Galaxy Tab 2 P3100 has the highest price at 19300 after giving 15% discount its new price become 16405.
All the product which are greater than 10000 have taken 15% discount and those product greater than or equal 10000 they are taken 10% discount.

Question3- 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.

Ans-

	PRODUCT_CLASS_CODE	PRODUCT_CLASS_DESCRIPTION	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

Explanations: : Here I have used product and product_class table for answering the question from 'Orders' database.

In the product class Promotion_High Value, Electronics, Clothes, Watches these all are present 4 types count in each. Also Promotion-Medium Value, Promotion-Low Value are present 3 types count in each. Toys and Bags have 5 types count in each.

Promotion-High Value has the highest inventory_value that is 2564300 and Bags have the lowest inventory_value that is 115170.

Question4- 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 (use sub-query).

Ans-

CUSTOMER_ID	FULL_NAME	CUSTOMER_EMAIL	CUSTOMER_PHONE	COUNTRY
41	Tharman Shanmugaratnam	tharshan@yahoo.co.sg	8572898929	Singapore

Table 4

Explanations: : Here I have used product online_customer, address and order_header table for answering the question from 'Orders' database.

Customer name is Tharman Shanmugaratham whose email id is tharshan@yahoo.co.sg, phone number- 8572898929, and the country of this customer is Singapore who have cancelled all the orders.

Question5- 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.

Ans-

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

Table 5

Explanations: : I have used shipper, online_customer, addresss, order_header tables for answering the question form 'Orders' database.

There are 7 city which are catering for shipper DHL these are

Bangalore number of customers catered 3 and number of consignments delivered to that city 5.

Hyderabad number of customers catered 2 and number of consignments delivered to that city 2.

And rest of all city like Abington, Amherst, Birmingam, Brooklyn, Dharmapuri, Hosur, W. Alibio, they all have number of customer catered 1 and number of consignments 1.

Question6- 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'.

Ans-

CUSTOMER_ID	CUSTOMER_FULL_NAME	TOTAL_QUANTITY	TOTAL_VALUE
6	Anita Goswami	25	93237.00
24	Brian Grazer	4	4010.00

Table 6

Explanations: : Here I have used online_customer, order_items, product, order_header tables for answering the question from 'Orders' database.

Customers whose last name starts with G they are Anita Goswami and Brian Grazer.
Anita Goswami total shipping quantity is 25 and total shipped value is 93237.
Brian Grazer total shipping quantity is 4 and total shipped value is 4010.

Question7- Write a query to display order_id and volume of biggest order (in terms of volume) that can fit in carton id 10.

Ans-

	ORDER_ID	BIGGEST_VOLUME
▶	10064	14988000

Table 7

Explanations: : Here I have used carton, order_items, product tables for answering the question from 'Orders' database.

In the order id 10064 the biggest volume which can fit in carton id 10 that is 14988000.

Question8- 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,

- If sales till date is zero then show 'no sales in past, give discount to reduce inventory',
- If inventory quantity is less than 10% of quantity sold, show 'low inventory, need to add inventory',
- If inventory quantity is less than 50% of quantity sold, show 'medium inventory, need to add some inventory',
- If inventory quantity is more or equal to 50% of quantity sold, show 'sufficient inventory'

b. For mobiles and watches categories,

- If sales till date is zero then show 'no sales in past, give discount to reduce inventory',
- If inventory quantity is less than 20% of quantity sold, show 'low inventory, need to add inventory',
- If inventory quantity is less than 60% of quantity sold, show 'medium inventory, need to add some inventory',
- 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'

Ans-

	PRODUCT_ID	PRODUCT_DESC	PRODUCT_QUANTITY_AVAIL	QUANTITY_SOLD	INVENTORY_STATUS
▶	201	Sky LED 102 CM TV	30	6	SUFFICIENT INVENTORY
	202	Sams 192 L4 Single-door Refrigerator	15	6	SUFFICIENT INVENTORY
	203	Jocky Speaker Music System HT32	19	3	SUFFICIENT INVENTORY
	204	Cricket Set for Boys	10	10	SUFFICIENT INVENTORY
	205	Infant Sleepwear Blue	50	7	SUFFICIENT INVENTORY
	206	Barbie Fab Gown Doll	20	13	SUFFICIENT INVENTORY
	207	Remote Control Car	29	11	SUFFICIENT INVENTORY
	208	Doll House	12	4	SUFFICIENT INVENTORY
	209	Blue Jeans 34	100	12	SUFFICIENT INVENTORY
	210	Blossoms Lehenga Choli set	100	10	SUFFICIENT INVENTORY
	211	OnePlus 6 Smart Phone	25	5	SUFFICIENT INVENTORY
	212	Samsung Galaxy On6	20	9	SUFFICIENT INVENTORY
	213	Alchemist	50	21	SUFFICIENT INVENTORY
	214	Harry Potter	50	27	SUFFICIENT INVENTORY
	215	Logitech M244 Optical Mouse	10	9	SUFFICIENT INVENTORY
	216	External Hard Disk 500 GB	10	7	SUFFICIENT INVENTORY
	217	Titan Karishma Watch	35	2	SUFFICIENT INVENTORY
	218	Shell Fingertip Ball Pen	150	67	SUFFICIENT INVENTORY
	PRODUCT_ID	PRODUCT_DESC	PRODUCT_QUANTITY_AVAIL	QUANTITY_SOLD	INVENTORY_STATUS
	219	Ruf-n-Tuf Black PU Leather Belt	50	20	SUFFICIENT INVENTORY
	220	Hello Kitti Lunch Bag	15	5	SUFFICIENT INVENTORY
	221	Cybershot DWC-W325 Camera	5	4	SUFFICIENT INVENTORY
	222	KitchAsst Siphon Coffee Maker 500 ml	10	3	SUFFICIENT INVENTORY
	223	Sams 21L Microwave Oven	5	4	SUFFICIENT INVENTORY
	224	Phils HL 7430 Mixer Grinder 750W	3	2	SUFFICIENT INVENTORY
	225	Solmo Non-stick Sandwich Maker 750 W	10	3	SUFFICIENT INVENTORY
	226	Solmo Hand Blender Fibre	12	7	SUFFICIENT INVENTORY
	227	Phils Wah Collection Juicer JM12	2	7	LOW INVENTORY, NEED TO ADD INVENTOR
	228	Adidas Analog Watch	10	7	SUFFICIENT INVENTORY
	229	Disney Analog Watch	10	2	SUFFICIENT INVENTORY
	230	Esprit Analog Watch	5	NULL	SUFFICIENT INVENTORY
	231	HP ODC Laptop Bag 15.5	10	7	SUFFICIENT INVENTORY
	232	Women Hand Bag	15	4	SUFFICIENT INVENTORY
	233	HP ODC School Bag 2.5'	35	13	SUFFICIENT INVENTORY
	234	FLUFF Tote Travel Bag 35LTR	8	4	SUFFICIENT INVENTORY
	235	Cindy HMPOC Pencil Box (Multicolor)	10	40	LOW INVENTORY, NEED TO ADD INVENTOR
	236	Solo Exam SB-01 Writing Pad	30	21	SUFFICIENT INVENTORY

Table 8

Explanations: : I have used product, product_class, order_items tables for answering the question from 'Orders' database.

Here some of the products have sufficient inventory indicate that they are well-stocked.

Some of the item have low inventory need to add inventory it suggest that they are close to running out and need restocking.

Some item are medium inventory need to add some inventory indicates that they are moderate stocked.

Question9- 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.(use sub-query).

Ans-

	PRODUCT_ID	PRODUCT_DESC	TOTAL_QUANTITY
▶	218	Shell Fingertip Ball Pen	20
	219	Ruf-n-Tuf Black PU Leather Belt	4
	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

Explanations: : I have used order_items,product,order_header, online_customer and address tables for answering the question from 'Orders' database.

Here the product Shell Fingertip ball Pen which total quantity 20

Ruf-n-Tuf Black PU Leather belt which total quantity 4 and rest of all less than 4.

Question10- 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".

Ans-

	ORDER_ID	CUSTOMER_ID	CUSTOMER_FULLNAME	TOTAL_QUANTITY_SHIPPED
▶	10008	7	Ashwathi Bhatt	25
	10022	23	Anna Pinnock	2
	10024	32	Hans Zimmer	2
	10028	23	Anna Pinnock	2
	10030	52	Suchirithaa Ekanayake	2
	10032	7	Ashwathi Bhatt	7
	10034	19	Bharti Subhash	2
	10036	24	Brian Grazer	4
	10040	3	Komal Choudhary	2
	10042	26	Stephen E. Rivkin	2
	10044	39	Liz Mullane	3
	10046	3	Komal Choudhary	1
	10048	33	Niseema Zimmer	1
	10052	17	Prasad Shetty	1
	10054	19	Bharti Subhash	3
	10058	28	Sayyed Faraj	2
	10064	35	Thomas Newman	3
	10068	51	Ahmad Bin Gh Azali	3
	10070	10	Bidhan C.Roy	3

Page 6

Explanations: : I have used online_customer, order_header, order_items and address tables for answering the question from 'Orders' database.

Here Aswathi Bhatt have shipped highest amount of product at 25 and her customer id is 7.