

# SQL – CODED PROJECT



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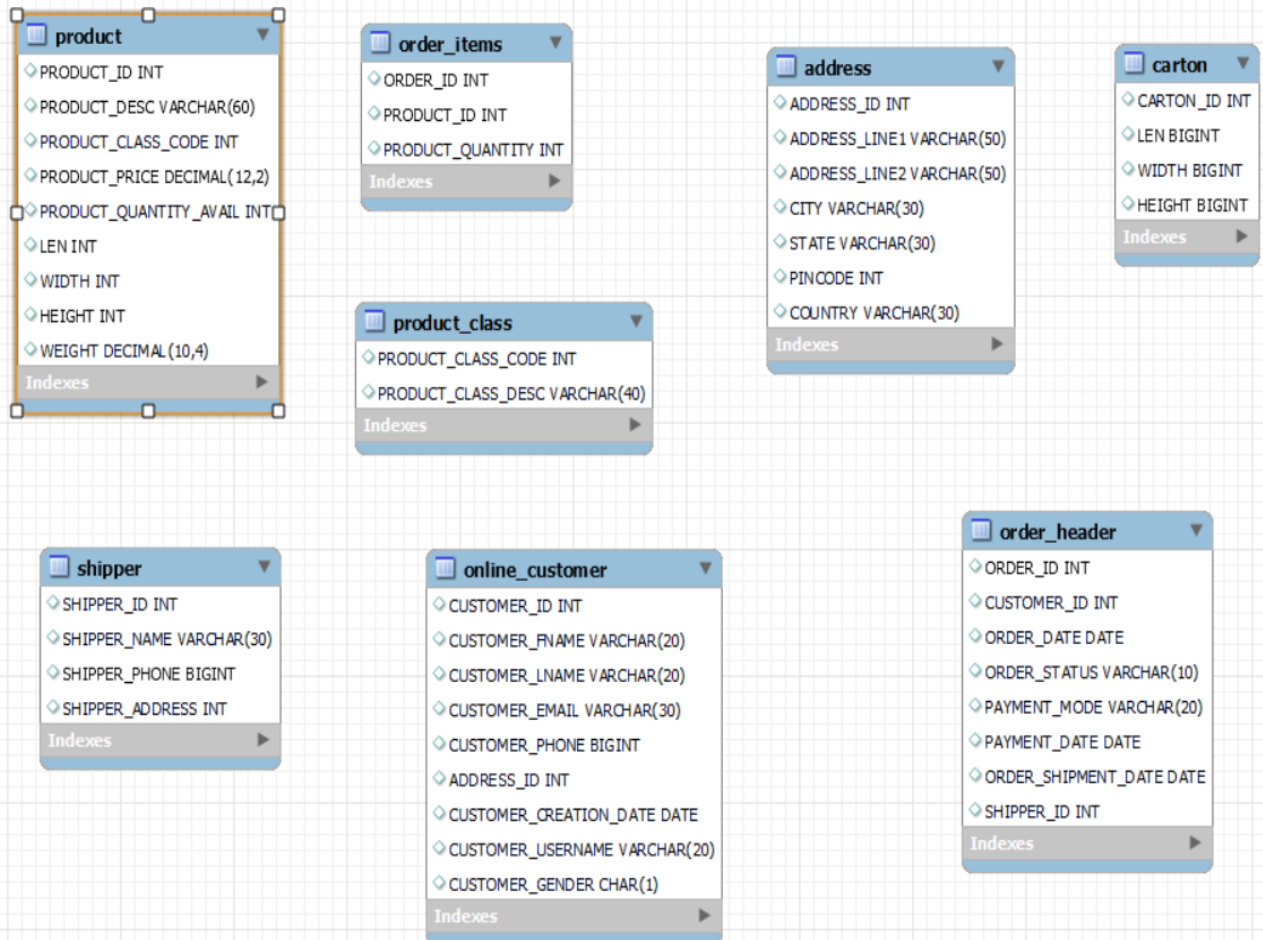
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## Scoring guide (Rubric) - Project Rubric

Criteria	Points
Business Questions #1 to #6 Each question is of 5 marks	30
Business Questions #7 to #10 Each question is of 6 marks	24
SQL Code Hygiene - Well formatted & indented SQL code - Standard naming conventions are followed - Aliases are given to aggregated columns	6
<b>TOTAL</b>	<b>60</b>

## Data Description



### Tables used:

Address  
Carton  
Online\_customer  
Online\_header  
Order\_items  
Product  
Product\_class  
Shipper

## Problem Statement - SQL Project - Coded

### Project Problem Statement:

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.

### Questions to be answered:

**Q1. 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**

**[Hint: Use case statement, no permanent change in table required. [note: tables to be used -online\_customer table]**

CUSTOMER_NAME	CUSTOMER_EMAIL	CUSTOMER_CREATION_DATE	CUSTOMER CATEGORY
MS. JENNIFER WILSON	<a href="mailto:jen_w@gmail.com">jen_w@gmail.com</a>	01-06-1991	CATEGORY A
MR. JACKSON DAVIS	<a href="mailto:dave_jack@gmail.com">dave_jack@gmail.com</a>	12-06-2001	CATEGORY A
MS. KOMAL CHOUDHARY	<a href="mailto:ch_komal@yahoo.co.IN">ch_komal@yahoo.co.IN</a>	26-06-2002	CATEGORY A
MR. WILFRED JEAN	<a href="mailto:w_jean@gmail.com">w_jean@gmail.com</a>	12-01-2006	CATEGORY B
MS. ANITA GOSWAMI	<a href="mailto:agoswami@gmail.com">agoswami@gmail.com</a>	13-03-2006	CATEGORY B

**Table 1**

### Inferences:

The online\_customer table has been used to display the query. As the customer Ms. Jennifer Wilson was created in the year 1991, hence she belongs to Category A. The customer Mr. Wilfred was created in 2006, hence he belongs to Category B. This query helps to classify customers as old customers, seasoned customers and new customers.

**Q2. 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**

**[Note: tables to be used -product, order\_items table]**

**Ans:**

PRODUCT_ID	PRODUCT_DESC	PRODUCT_QUANTITY_AVAIL	PRODUCT_PRICE	INVENTORY_VALUES	NEW_PRICE
99999	Samsung Galaxy Tab 2 P3100	50	19300	965000	16405
99997	Sony Xperia U (Black White)	50	16499	824950	14024.15
99998	Nikon Coolpix L810 Bridge	50	14987	749350	12738.95
99995	LG MS-2049UW Solo Microwave	100	4800	480000	4320
99996	Nokia Asha 200 (Graphite)	100	4070	407000	3663

**Table 2**

**Inferences:**

The top 5 products which have not been sold is displayed in the above table. The discount has been applied depending on the product price. As the product price of Samsung Galaxy Tab, Sony Xperia and Nikon Coolpix are more than 10000 but less than 20000, a discount of 15% has been applied on the product price. The price of LG MS Microwave and Nokia Asha are less than 10000, hence a discount of 10% is applicable on their price. A discount is given to sell these products to empty the inventory, which is a good business practice.

**Q3. 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. [note: tables to be used - product, product\_class]**

**Ans:**

PRODUCT_CLASS_CODE	PRODUCT_CLASS_DESC	PRODUCT_COUNT	INVENTORY_VALUE
3000	Promotion-High Value	4	2564300
2050	Electronics	4	1665600
3001	Promotion-Medium Value	3	1261900
2055	Mobiles	2	1092500
3002	Promotion-Low Value	3	749250

**Table 3**

**Inferences:**

This query displays those products whose inventory value is more than 1,00,000. We see that there are 4 pieces of Promotion-High Value products which have the maximum inventory value of 25,64,300 followed by Electronics products which are also 4 in number valuing 16,65,600.

**Q4. 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) [note: tables to be used - online\_customer, addresss, order\_header]**



**Ans:**

CUSTOMER_ID	FULLNAME	CUSTOMER_EMAIL	CUSTOMER_PHONE	COUNTRY
8	Neetha Castelina	neetha20@gmail.com	8196236362	India
33	Niseema Zimmer	niseemaz@yahoo.com	8179413840	USA
51	Ahmad Bin Gh Azali	ahmad_bingh@yahoo.co.my	7348292313	Malaysia
34	Hans Zimmer	hans_zimmer@gmail.com	9477272235	USA
41	Tharman Shanmugaratnam	tharshan@yahoo.co.sg	8572898929	Singapore

**Table 4**

**Inferences:**

The above query displays the customer details of the customers who have cancelled their orders.

**Q5. 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.**

**[note: tables to be used -shipper, online\_customer, addresss, order\_header]**

**Ans:**

SHIPPER_NAME	CITY	NO_OF_CUSTOMERS	NO_OF_CONSIGNMENTS
DHL	Bangalore	5	5
DHL	Hyderabad	2	2
DHL	W. Alibio	1	1
DHL	Brooklyn	1	1
DHL	Dharmapuri	1	1
DHL	Abington	1	1
DHL	Amherst	1	1
DHL	Birmingham	1	1
DHL	Hosur	1	1

**Table 5**

**Inferences:**

The above query displays the details of the shipper 'DHL'. The query tells us the city to which the particular shipper is shipping the consignments to, the number of customers it is catering to and the number of consignments it is carrying.

**Q6. 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'**

**[note: tables to be used -online\_customer, order\_items, product, order\_header]**

**Ans:**

CUSTOMER_ID	CUSTOMER_FULL_NAME	TOTAL_QUANTITY	TOTAL_VALUE	PAYMENT_MODE
6	Anita Goswami	25	93237	Cash
24	Brian Grazer	4	4010	Cash

**Table 6**

**Inferences:**

This query tells us the customer's names whose last name starts with G and the total quantity and total value of products shipped to them, provided that they have made cash payment.

**Q7. Write a query to display order\_id and volume of biggest order (in terms of volume) that can fit in carton id 10**

**[note: tables to be used -carton, order\_items, product]**

**Ans:**

ORDER_ID	VOLUME_BIGGEST_ORDER
10010	14508000

**Table 7**

**Inferences:**

The query first calculates the volume of the carton whose carton\_id is 10 by calculating the product of length, breadth and its height. Then, it calculates the volume of all the products whose volume is less than the carton volume. In this, it takes the highest product volume which can fit into the carton.

**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'

[note: tables to be used -product, product\_class, order\_items] (use sub-query)

**Ans:**

**a. For electronics and computer categories:**

PRODUCT_ID	PRODUCT_DESC	PRODUCT_CLASS_DESC	INVENTORY	QUANTITY_SOLD	INVENTORY_STATUS
221	Cybershot DWC-W325 Camera	Electronics	5	4	SUFFICIENT INVENTORY
202	Sams 192 L4 Single-door Refrigerator	Electronics	15	6	SUFFICIENT INVENTORY
203	Jocky Speaker Music System HT32	Electronics	19	3	SUFFICIENT INVENTORY
201	Sky LED 102 CM TV	Electronics	30	6	SUFFICIENT INVENTORY
215	Logtech M244 Optical Mouse	Computer	10	9	SUFFICIENT INVENTORY
216	External Hard Disk 500 GB	Computer	10	7	SUFFICIENT INVENTORY

**Table 8.1**

**b. For mobiles and watches categories:**

PRODUCT_ID	PRODUCT_DESC	PRODUCT_CLASS_DESC	INVENTORY	QUANTITY_SOLD	INVENTORY_STATUS
212	Samsung Galaxy On6	Mobiles	20	9	SUFFICIENT INVENTORY
211	OnePlus 6 Smart Phone	Mobiles	25	5	SUFFICIENT INVENTORY
229	Disney Analog Watch	Watches	10	2	SUFFICIENT INVENTORY
228	Adidas Analog Watch	Watches	10	7	SUFFICIENT INVENTORY
217	Titan Karishma Watch	Watches	35	2	SUFFICIENT INVENTORY

**Table 8.2**

**c. Rest of the categories:**

PRODUCT_ID	PRODUCT_DESC	PRODUCT_CLASS_DESC	INVENTORY	QUANTITY_SOLD	INVENTORY_STATUS
205	Infant Sleepwear Blue	Clothes	50	7	SUFFICIENT INVENTORY
244	Foldable Premium Chair	Furnitures	6	16	MEDIUM INVENTORY, NEED TO ADD SOME INVENTORY
238	Kasyo DJ-2100 Desktop Calculator	Stationery	10	10	SUFFICIENT INVENTORY
235	Cindy HMPOC Pencil Box (Multicolor)	Stationery	10	40	LOW INVENTORY, NEED TO ADD INVENTORY
241	PK Copier A4 75 GSM White Paper Ream	Stationery	2	18	LOW INVENTORY, NEED TO ADD INVENTORY
206	Barbie Fab Gown Doll	Toys	20	13	SUFFICIENT INVENTORY

**Table 8.3**

### **Inferences:**

Three queries are written for the three categories, namely, Electronics and computers, Mobiles and watches and Rest of the categories. The respective tables are joined and the Case statements are executed according to the given conditions.

The Electronics, Computers, Mobiles and Watches have sufficient inventory. In the rest of the categories, Cindy Multicolor Pencil Box and PK Copier A4 75 GSM White Paper ream are low in inventory and need to be refurbished. Foldable premium chair is Moderate inventory.

**Q9. 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)**

**[note: tables to be used -order\_items,product,order\_header, online\_customer, address]**

**Ans:**

PRODUCT_ID	PRODUCT_DESC	TOTAL_QUANTITY_SOLD
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**

**Inferences:**

The above query displays the product ID, description and total quantity of those products which are shipped along with product ID 201 but not to the cities of Bangalore and New Delhi.

**Q10. 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"**

**[note: tables to be used - online\_customer, order\_header, order\_items, address]**

**Ans:**

ORDER_ID	CUSTOMER_ID	CUSTOMER_FULLNAME	TOTAL_QUANTITY_SHIPPED
10008	7	Ashwathi Bhatt	1
10022	23	Anna Pinnock	1
10024	32	Hans Zimmer	1
10028	23	Anna Pinnock	1
10030	52	Suchirithaa Ekanayake	1

**Table 10**

**Inferences:**

This query gives the output of those customers whose Order\_Id is an even number and their address pincode does not start with 5.

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