**SQL – TAKE HOME LAB EXERCISE – 04**

**USE Orders SCHEMA:**

**PLEASE FIND LINK :DOWNLOAD ORDERS SCHEMA AND IMPORT IN MY SQL**

[**https://drive.google.com/open?id=15t6\_aO54J9iFPPirXLp9pUGcKGJ9NeYO**](https://drive.google.com/open?id=15t6_aO54J9iFPPirXLp9pUGcKGJ9NeYO)

1. **Write a Query to display the product id, product description and product price of products whose product id less than 1000 and that have the same price more than once.**

**(USE SUB-QUERY)(15 ROWS)[NOTE:PRODUCT TABLE]**

**ANSWER:-**

SELECT product\_id, product\_desc, product\_price

FROM Product

WHERE product\_id < 1000

AND product\_price IN

(SELECT product\_price

FROM Product

GROUP BY product\_price

HAVING COUNT(\*)>1)

ORDER BY 3;

1. **Write a query to display product class description ,total quantity(sum(product\_quantity),**

**Total value (product\_quantity \* product price) and show which class of products have been shipped highest to countries outside India other than USA? Also show the total value of those items.**

**(1 ROWS)[NOTE:PRODUCT TABLE,ADDRESS TABLE,ONLINE\_CUSTOMER TABLE,ORDER\_HEADER TABLE,ORDER\_ITEMS TABLE,PRODUCT\_CLASS TABLE]**

**ANSWER:-**

SELECT product\_class\_desc, SUM(oi.product\_quantity) AS total\_qty,

SUM(oi.product\_quantity \* p.product\_price) AS total\_value

FROM Address a, Online\_Customer oc, Order\_Header oh, Order\_Items oi, Product p, Product\_class pc

WHERE a.country != 'India'

AND a.country != 'USA'

AND a.address\_id = oc.address\_id

AND oc.customer\_id = oh.customer\_id

AND oh.order\_id = oi.order\_id

AND oi.product\_id = p.product\_id

AND p.product\_class\_code = pc.product\_class\_code

GROUP BY product\_class\_desc

ORDER BY 2 DESC LIMIT 1;

1. **Write a query to display the customer id, customer first name, address line 2,city total sales(sum(product quantity \* product price (0 if they haven't purchased any item)) made by customers who stay in the same locality (i.e. same address\_line2 & city). (USE SUB-QUERY)**

**(4 ROWS)[NOTE : ADDRESS,ONLINE\_CUSTOMER,ORDER\_HEADER,ORDER\_ITEMS,PRODUCT]**

**ANSWER:-**

SELECT oc.customer\_id, oc.customer\_fname, a.address\_line2, a.city,

IFNULL(SUM(oi.product\_quantity \* p.product\_price),0) as total\_sales

FROM Address a INNER JOIN Online\_Customer oc

ON (oc.address\_id = a.address\_id)

LEFT OUTER JOIN Order\_Header oh

ON oc.customer\_id = oh.customer\_id

AND oh.order\_status = 'Shipped'

LEFT OUTER JOIN Order\_Items oi

ON oh.order\_id = oi.order\_id

LEFT OUTER JOIN Product p

ON oi.product\_id = p.product\_id

WHERE (address\_line2, city) IN

(SELECT address\_line2, city FROM Address

GROUP BY address\_line2, city

HAVING COUNT(\*) > 1)

GROUP BY oc.customer\_id, oc.customer\_fname, a.address\_line2, a.city;

1. **Write a Query to display product id,product description,totalquantity(sum(product quantity) For a given item whose product id is 201 and which item has been bought along with it maximum no. of times.**

**(USE SUB-QUERY)(1 ROW)[NOTE : ORDER\_ITEMS TABLE,PRODUCT TABLE]**

**ANSWER:-**

SELECT p.product\_id, product\_desc, SUM(product\_quantity) AS tot\_qty

FROM Order\_Items oi, Product p

WHERE order\_id IN

(SELECT order\_id FROM Order\_Items

WHERE product\_id = 201)

AND p.product\_id != 201

AND oi.product\_id = p.product\_id

GROUP BY p.product\_id, product\_desc

ORDER BY 3 DESC LIMIT 1;

1. **Write a Query to display the month,total quantity(sum(product quantity)) and show during which month of the year do foreign customers tend to buy max. no. of products.**

**(USE-SUB-QUERY)**

**(1ROW)[NOTE:ORDER\_ITEMSTABLE,ORDER\_HEADERTABLE,ONLINE\_CUSTOMER TABLE,ADDRESS TABLE]**

**ANSWER:-**

SELECT DATE\_FORMAT(order\_date, '%m') AS month,

SUM(product\_quantity) AS total\_qty

FROM Order\_items oi INNER JOIN Order\_Header oh

ON oi.order\_id = oh.order\_id

INNER JOIN Online\_Customer oc

ON oh.customer\_id = oc.customer\_id

INNER JOIN Address a

ON oc.address\_id = a.address\_id

WHERE a.country != 'India'

GROUP BY month

HAVING total\_qty =

(SELECT SUM(product\_quantity) AS total\_qty

FROM Order\_items oi INNER JOIN Order\_Header oh

ON oi.order\_id = oh.order\_id

INNER JOIN Online\_Customer oc

ON oh.customer\_id = oc.customer\_id

INNER JOIN Address a

ON oc.address\_id = a.address\_id

WHERE a.country != 'India'

GROUP BY DATE\_FORMAT(order\_date, '%m')

ORDER BY total\_qty DESC LIMIT 1);

1. **Write a Query to display customer id,customer firstname,lastname,order status,total value(sum(product quantity \* product price)) and show who is the most valued customer (customer who made the highest sales)**

**(1 ROW) [NOTE: ONLINE\_CUSTOMER TABLE, ORDER\_HEADER TABLE, ORDER\_ITEMS TABLE, PRODUCT TABLE]**

**ANSWER:-**

SELECT oc.customer\_id, oc.customer\_fname, oc.customer\_lname, oh.order\_status,

SUM(product\_quantity \* p.product\_price) AS total\_value

FROM Online\_customer oc INNER JOIN Order\_header oh

ON oc.customer\_id = oh.customer\_id

AND oh.order\_status = 'Shipped'

INNER JOIN Order\_Items oi

ON oh.order\_id = oi.order\_id

INNER JOIN Product p

on oi.product\_id = p.product\_id

GROUP BY oc.customer\_id, oc.customer\_fname, oc.customer\_lname, oh.order\_status

HAVING SUM(product\_quantity \* p.product\_price) =

(SELECT SUM(product\_quantity \* p.product\_price) AS total\_value

FROM Online\_customer oc INNER JOIN Order\_header oh

ON oc.customer\_id = oh.customer\_id

AND oh.order\_status = 'Shipped'

INNER JOIN Order\_Items oi

ON oh.order\_id = oi.order\_id

INNER JOIN Product p

on oi.product\_id = p.product\_id

GROUP BY oc.customer\_id ORDER BY total\_value DESC LIMIT 1);

1. **Write a query to display product class code,product class desc,product id product description,product price and show the most expensive products in their respective classes.**

**(16 ROWS)[NOTE : PRODUCT TABLE,PRODUCT CLASS TABLE]**

**ANSWER:-**

SELECT p1.product\_class\_code, product\_class\_desc,

product\_id, product\_desc, product\_price

FROM Product p1 INNER JOIN Product\_class pc

ON p1.product\_class\_code = pc.product\_class\_code

WHERE product\_price =

(SELECT MAX(product\_price) FROM Product p2

WHERE p1.product\_class\_code = p2.product\_class\_code)

ORDER BY product\_class\_code, product\_id DESC;

1. **Write a query to display shipper id,shipper name , (len\*width\*height\*product\_quantity) as total volume shipped and show Which shipper has shipped highest volume of items.**

**(1 ROW) [NOTE : SHIPPER TABLE,ORDER\_HEADER TABLE,ORDER\_ITEMS TABLE,**

**PRODUCT TABLE]**

**ANSWER:-**

SELECT s.shipper\_id, shipper\_name,

SUM(len \* width \* height \* product\_quantity) AS total\_vol\_shipped

FROM Shipper s INNER JOIN Order\_header oh

ON s.shipper\_id = oh.shipper\_id

AND oh.order\_status = 'Shipped'

INNER JOIN Order\_items oi

ON oh.order\_id = oi.order\_id

INNER JOIN Product p

ON oi.product\_id = p.product\_id

GROUP BY s.shipper\_id, shipper\_name

HAVING SUM(len \* width \* height \* product\_quantity) =

(SELECT SUM(len \* width \* height \* product\_quantity)

FROM Shipper s INNER JOIN Order\_header oh

ON s.shipper\_id = oh.shipper\_id

AND oh.order\_status = 'Shipped'

INNER JOIN Order\_items oi

ON oh.order\_id = oi.order\_id

INNER JOIN Product p

ON oi.product\_id = p.product\_id

GROUP BY s.shipper\_id, shipper\_name

ORDER BY 1 DESC LIMIT 1);

1. **Write a query to display carton id ,(len\*width\*height) as carton\_vol and identify the optimum carton (carton with the least volume whose volume is greater than the total volume of all items) for a given order whose order id is 10006 , Assume all items of an order are packed into one single carton (box) .(1 ROW)[NOTE : CARTON TABLE]**

**ANSWER:-**

SELECT carton\_id, (len \* width \* height) AS carton\_vol FROM Carton

WHERE (len \* width \* height) >=

(

SELECT SUM(len \* width \* height \* product\_quantity)

FROM Order\_Items oi INNER JOIN Product p

ON oi.product\_id = p.product\_id

WHERE order\_id = 10006

)

ORDER BY carton\_vol LIMIT 1;

1. **Write a query to display product id,product**

**description,total\_quantity (sum(order\_quantity) ,**

**Provided show the most and least sold products**

**(quantity-wise).(3 ROWS)(USE:SUB-QUERY)**

**ANSWER:-**

SELECT p.product\_id, product\_desc, SUM(product\_quantity) AS total\_qty

FROM Product p INNER JOIN Order\_items oi

ON p.product\_id = oi.product\_id

GROUP BY p.product\_id, product\_desc

HAVING SUM(product\_quantity) =

(SELECT SUM(product\_quantity) AS tot\_qty FROM Order\_items

GROUP BY product\_id ORDER BY tot\_qty DESC LIMIT 1)

OR SUM(product\_quantity) =

(SELECT SUM(product\_quantity) AS tot\_qty FROM Order\_items

GROUP BY product\_id ORDER BY tot\_qty LIMIT 1);