Name : BoradSahil **Roll Number : 20BCE034**

Subject : DBMS

Practical : 5

Aim : 1. Nested query
2. Co-related query

1. Using the schema of Practical – 4, do as directed using single row subquery:

a) Find total order amount for each product

SQL >

```
select orderno,sum(qtyordered*productrate) as TotalAmount from
order_details GROUP BY orderno;
```

Output :

ORDERNO	TOTALAMOUNT
O19002	5250
O19008	2050
O19001	29400
O19003	3500
O46865	850

b) Which order has total order amount greater than 5000

SQL >

```
select orderno,sum(qtyordered*productrate) AS TotalAmount from
order_details GROUP BY orderno having sum(qtyordered*productrate)>5000;
```

Output :

ORDERNO	TOTALAMOUNT
O19002	5250

O19001	29400

c) Which product is most expensive in terms of cost price?

SQL >

```
select * from product where costprice=(select max(costprice) from
product);
```

Output :

PRODUCTNO	DESCRIPTION	PROFITPERCENT	UNITMEASURE	QTYONHAND	REORDERLVL	SELLPRICE	COSTPRICE
P03453	Monitors	6	Piece	10	3	12000	11200

d) Find order having highest total order amount

SQL >

```
select orderno,sum(qtyordered*productrate) as TotalAmount from
order_details GROUP BY orderno having sum(qtyordered*productrate) =
(select max(TotalAmount) from (select
orderno,sum(qtyordered*productrate) as TotalAmount from order_details
GROUP BY orderno));
```

Output :

ORDERNO	TOTALAMOUNT
O19001	29400

e) Write a query to find the Product whose sell price is greater than the sell price of product whose id is 'P00001'.

SQL >

```
select * from product where sellprice > (select sellprice from product
where productno='P00001');
```

Output :

PRODUCTNO	DESCRIPTION	PROFITPERCENT	UNITMEASURE	QTYONHAND	REORDERLVL	SELLPRICE	COSTPRICE
P03453	Monitors	6	Piece	10	3	12000	11200
P06734	Mouse	5	Piece	20	5	1050	500

P07868	Keyboards	2	Piece	10	3	3150	3050

f) Write a query to find the products who all are having the highest sell price.

SQL >

```
select * from product where sellprice = (select max(sellprice) from
product);
```

Output :

PRODUCTNO	DESCRIPTION	PROFITPERCENT	UNITMEASURE	QTYONHAND	REORDERLVL	SELLPRICE	COSTPRICE
P03453	Monitors	6	Piece	10	3	12000	11200

g) Write a query to find the order in which the least order amount of any product is greater than the highest order amount of any product in the order 'O19002'.

SQL >

```
select orderno,min(qtyordered*productrate) as MinAmount from
order_details GROUP BY orderno having min(qtyordered*productrate) >
(select max(qtyordered*productrate) from order_details GROUP BY orderno
having orderno='O19002');
```

Output : no rows selected

SQL >

```
select orderno,min(qtyordered*productrate) as MinAmount from
order_details GROUP BY orderno having min(qtyordered*productrate) >
(select max(qtyordered*productrate) from order_details GROUP BY orderno
having orderno='O19003');
```

Output :

ORDERNO	MINAMOUNT
O19002	5250
O19008	2050
O19001	2100

2. Do as directed, using multiple row subquery:

a) **Write a query to find the product whose quantity is equal to the quantity of at least one product ordered in the order 'O19001'.**

SQL >

```
select productno,qtyonhand from product WHERE qtyonhand IN (select
qtyonhand from product WHERE productno IN (select productno from
order_details WHERE orderno='O19001'));
```

Output :

PRODUCTNO	QTYONHAND
P00001	100
P03453	10
P07865	100
P07868	10

b) Write a query to find the client whose Baldue is greater than at least one client associated with Salesman S01. (Use ANY)

SQL >

```
select * from client WHERE baldue > ANY(select baldue from client WHERE
clientno = ANY(select clientno from sales_order WHERE
salesmanno='S01'));
```

Output :

CLIENTNO	NAME	CITY	PINCODE	STATE	BALDUE
C01	Ivan Bayross	Mumbai	400054	Maharashtra	15000
C03	Chhaya Patel	Mumbai	400057	Maharashtra	5000

c) Write a query to find the Product having profit (sellprice-costprice) is less than all products ordered in the order 'O19001'. (Use ALL)

SQL >

```
select productno,(sellprice-costprice) as Profit from product WHERE
sellprice-costprice < ALL(select sellprice-costprice from product WHERE
productno IN (select productno from order_details WHERE
orderno='O19001'));
```

Output : no rows selected

SQL >

```
select productno,(sellprice-costprice) as Profit from product WHERE
sellprice-costprice > ALL(select sellprice-costprice from product WHERE
productno IN (select productno from order_details WHERE
orderno='O19001'));
```

Output :

PRODUCTNO	PROFIT
P03453	800
P06734	550

3. Do as directed, using correlated subquery:

a) Write a query to find the highest profit(sellprice-costprice) in each order. (Use inline view)

SQL >

```
select orderno,max(qtyordered*(productrate - (select costprice from
product where product.productno = order_details.productno))) as
MaxProfit from order_details GROUP BY orderno;
```

Output :

ORDERNO	MAXPROFIT
O19002	250
O19008	1050
O19001	15800
O19003	-2000
O46865	-1750

b) Write a query to list the salesman who have at least one order.

SQL >

```
select * from salesman where salesmanno IN (select salesmanno from
sales_order);
```

Output :

SALESMAN NO	SALESMAN NAME	ADDRESS 1	ADDRESS 2	CITY	PINCODE	STATE	SALAMT	TGTTOGET	YTDSALES	REMARKS
S01	Aman	A/14	Worli	Mumbai	400002	Maharashtra	3000	100	50	Good
S04	Ashish	A/5	Juhu	Mumbai	400044	Maharashtra	3500	200	150	Good

c) Write a query to find the Salesman which do not have order at all.

SQL >

- `select * from salesman where salesmanno NOT IN (select salesmanno from sales_order);`

Output :

SALESMAN NO	SALESMAN NAME	ADDRESS 1	ADDRESS 2	CITY	PINCODE	STATE	SALAMT	TGTTOGET	YTDSALES	REMARKS
S02	Omkar	65	Nariman	Mumbai	400001	Maharashtra	3000	200	100	Good
S03	Raj	P-7	Bandra	Mumbai	400032	Maharashtra	3000	200	100	Good

d) Display third highest price of all product.

SQL >

- `select * from product where sellprice = (select max(sellprice) from product where sellprice<(select max(sellprice) from product where sellprice<(select max(sellprice) from product)));`

Output :

PRODUCTNO	DESCRIPTION	PROFITPERCENT	UNITMEASURE	QTYONHAND	REORDERLVL	SELLPRICE	COSTPRICE
P06734	Mouse	5	Piece	20	5	1050	500