Q8: Advanced Query Processing: sUsing your database, answer the following querie
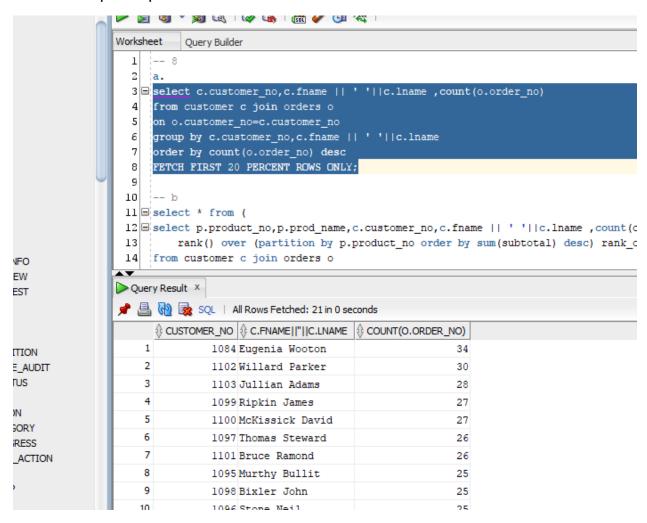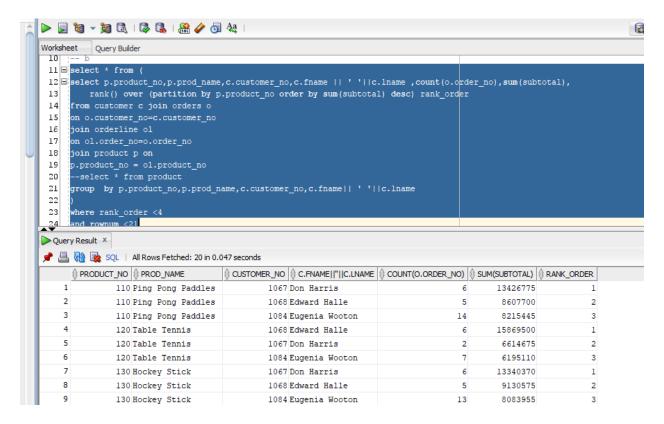
1.List the top 25% percent of customers in terms of total number of orders
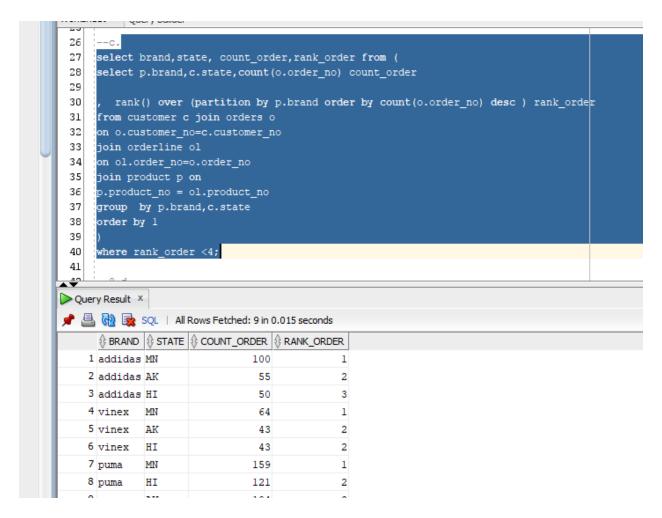
```
1   -- 8
2   a.
3   select c.customer_no,c.fname || ' '||c.lname ,count(o.order_no)
4   from customer c join orders o
5   on o.customer_no=c.customer_no
6   group by c.customer_no,c.fname || ' '||c.lname
7   order by count(o.order_no) desc
8   FETCH FIRST 20 PERCENT ROWS ONLY;
9
10  -- b
11  select * from (
12  select p.product_no,p.prod_name,c.customer_no,c.fname || ' '||c.lname ,count(c
13      rank() over (partition by p.product_no order by sum(subtotal) desc) rank_c
14  from customer c join orders o
```

Query Result ×

SQL | All Rows Fetched: 21 in 0 seconds

CUSTOMER_NO	C.FNAME||"||C.LNAME	COUNT(O.ORDER_NO)
1	1084 Eugenia Wooton	34
2	1102 Willard Parker	30
3	1103 Jullian Adams	28
4	1099 Ripkin James	27
5	1100 McKissick David	27
6	1097 Thomas Steward	26
7	1101 Bruce Ramond	26
8	1095 Murthy Bullit	25
9	1098 Bixler John	25
10	1096 Stone Neil	25

For each product (product number and product description),

```
10   -- b
11   select * from (
12   select p.product_no,p.prod_name,c.customer_no,c.fname || ' '||c.lname ,count(o.order_no),sum(subtotal),
13       rank() over (partition by p.product_no order by sum(subtotal) desc) rank_order
14   from customer c join orders o
15   on o.customer_no=c.customer_no
16   join orderline ol
17   on ol.order_no=o.order_no
18   join product p on
19   p.product_no = ol.product_no
20   --select * from product
21   group  by p.product_no,p.prod_name,c.customer_no,c.fname|| ' '||c.lname
22   )
23   where rank_order <4
24   and rownum <21
```

Query Result x

SQL | All Rows Fetched: 20 in 0.047 seconds

	PRODUCT_NO	PROD_NAME	CUSTOMER_NO	C.FNAME||''||C.LNAME	COUNT(O.ORDER_NO)	SUM(SUBTOTAL)	RANK_ORDER
1	110	Ping Pong Paddles	1067	Don Harris	6	13426775	1
2	110	Ping Pong Paddles	1068	Edward Halle	5	8607700	2
3	110	Ping Pong Paddles	1084	Eugenia Wooton	14	8215445	3
4	120	Table Tennis	1068	Edward Halle	6	15869500	1
5	120	Table Tennis	1067	Don Harris	2	6614675	2
6	120	Table Tennis	1084	Eugenia Wooton	7	6195110	3
7	130	Hockey Stick	1067	Don Harris	6	13340370	1
8	130	Hockey Stick	1068	Edward Halle	5	9130575	2
9	130	Hockey Stick	1084	Eugenia Wooton	13	8083955	3

List the top three customers purchased in term of net sales

8.c: For each product brand, List the top three states which customers have purchased the product brand. This should be done in term of gross sales (don't include tax or shipping charges)

```
26   --c.
27   select brand,state, count_order,rank_order from (
28   select p.brand,c.state,count(o.order_no) count_order
29
30   ,   rank() over (partition by p.brand order by count(o.order_no) desc ) rank_order
31   from customer c join orders o
32   on o.customer_no=c.customer_no
33   join orderline ol
34   on ol.order_no=o.order_no
35   join product p on
36   p.product_no = ol.product_no
37   group  by p.brand,c.state
38   order by 1
39   )
40   where rank_order <4;
41
```

Query Result x

SQL | All Rows Fetched: 9 in 0.015 seconds

	BRAND	STATE	COUNT_ORDER	RANK_ORDER
1	addidas	MN	100	1
2	addidas	AK	55	2
3	addidas	HI	50	3
4	vinex	MN	64	1
5	vinex	AK	43	2
6	vinex	HI	43	2
7	puma	MN	159	1
8	puma	HI	121	2

8.d: List those customers that their orders included all of our products

```
41
42    --8.d
43 ⊟ with t as (select  product_no from products),
44    p as (
45    select   c.fname, c.lname ,ol.product_no,o.order_no   from orders o join orderline ol on
46    o.order_no =ol.order_no
47    join customer c  on c.customer_no=o.customer_no
48    )
49    select p.fname, p.lname, p.product_no,p.order_no,t.product_no from p join t on
50    p.product_no=t.product_no and rownum <21;
51
52    -- 8.e    ·
53 ⊟ with t as (select  product_no from products),
54    pl as (
55    select   e.fname, e.lname ,ol.product_no,p.prod_name   from orders o join orderline ol on
56    o.order_no =ol.order_no
```

Query Result ×

📌 🖨 🔍 ❌ SQL | All Rows Fetched: 20 in 0 seconds

	FNAME	LNAME	PRODUCT_NO	ORDER_NO	PRODUCT_NO_1
1	Jensen	Maria	180	1197	180
2	Edward	Halle	180	1200	180
3	Jensen	Maria	180	1204	180
4	Michael	Bond	180	1208	180
5	Al	Doering	180	1212	180
6	Edward	Halle	180	1214	180
7	Roerig	Jake	180	1217	180
8	Jensen	Maria	180	1218	180
9	Donn	Jenkins	180	1220	180

8.e: List those employees that have sold all products

```
51
52    -- 8.e
53  ⊟ with t as (select  product_no from products),
54    pl as (
55    select  e.fname, e.lname ,ol.product_no,p.prod_name  from orders o join orderline ol on
56    o.order_no =ol.order_no
57    join employee e  on e.employee_no=o.employee_no
58    join product p on p.product_no= ol.product_no
59    )
60    select distinct pl.fname, pl.lname,pl.prod_name, pl.product_no,t.product_no from pl join t on
61    pl.product_no=t.product_no and rownum <21;
62
63    select * from orders
64    -- f state with total sales...
65    select * from (
```

Query Result ×

	FNAME	LNAME	PROD_NAME	PRODUCT_NO	PRODUCT_NO_1
1	Harrison	Heisler	Keeping Gloves NQ	170	170
2	Harrison	Heisler	knee pad	180	180
3	Harrison	Heisler	Ping Pong Paddles	110	110
4	Harrison	Heisler	Keeping Gloves HQ	140	140
5	Harrison	Heisler	Hockey Stick	130	130
6	Harrison	Heisler	Cricket Bat	150	150
7	Harrison	Heisler	Golf stick	160	160

8..f: List every states with their highest total sale

```
62
63    select * from orders
64    -- f state with total sales...
65    select * from (
66    select b.state, order_date,sum(subtotal) as total_sales
67    ,rank () over (partition by state order by sum(subtotal) desc) ranks
68    from orders o
69    join branch b on
70    b.BRANCH_NO=o.branch_no
71    group by o.order_date,b.state
72    )
73    where ranks =1
```

Query Result x

SQL | All Rows Fetched: 13 in 0 seconds

	STATE	ORDER_DATE	TOTAL_SALES	RANKS
1	AK	30-AUG-03	1232680	1
2	AZ	06-NOV-03	2317425	1
3	CA	01-APR-03	484515	1
4	CO	19-JUN-03	4187270	1
5	DC	04-MAR-03	3007140	1
6	DE	10-JUN-03	17862595	1
7	FL	11-JUN-03	6601480	1
8	HI	14-JUN-03	1892395	1
9	ID	03-APR-03	2658640	1
10	IL	08-JUN-03	2297530	1
11	MN	19-JUN-03	4351580	1
12	NV	18-JUN-02	2047250	1
13	OR	16-AUG-02	3903475	1