DBMS
Lab Assignment-VI

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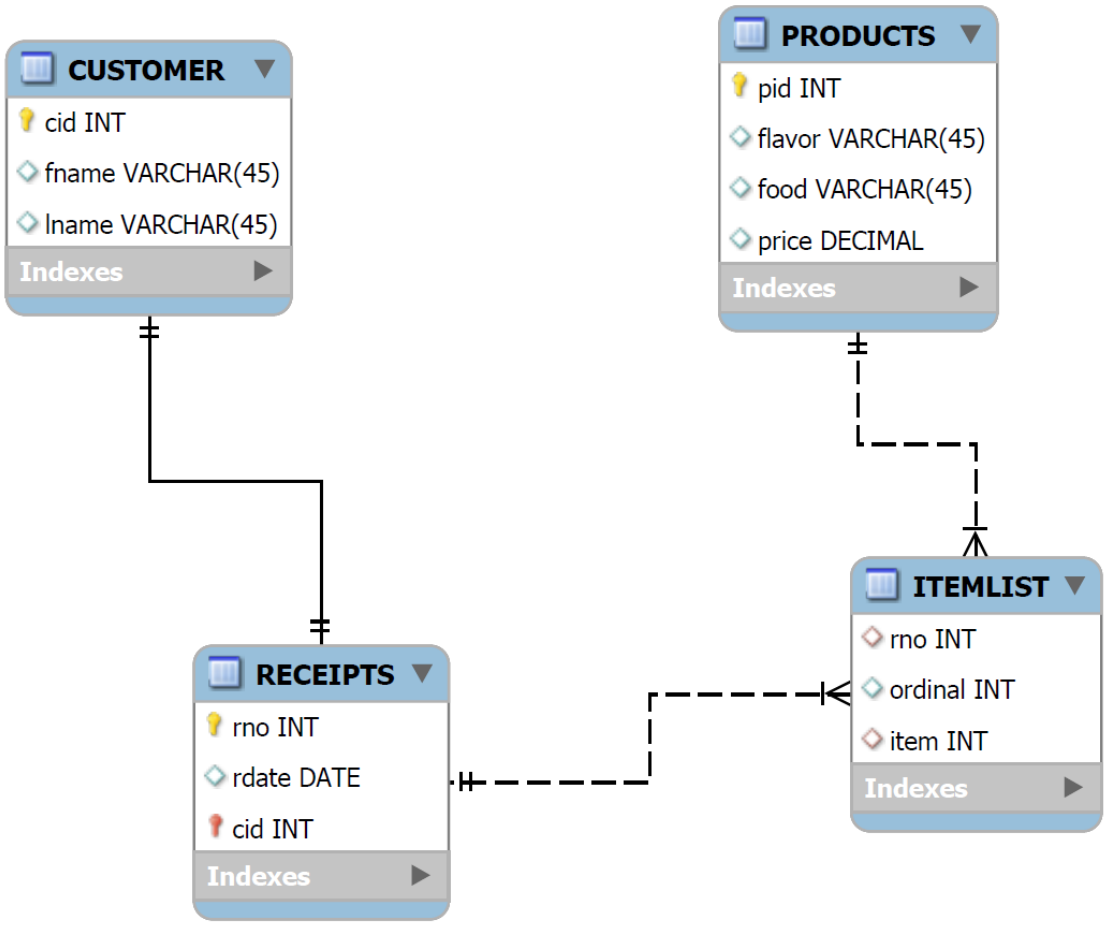
Aim: The aim of this assignment is to write single SQL Query as provided in Lab- 6.pdf on Bakery Database.

Experiments: In this following Lab Assignment we are going to write single SQL Queries to retrieve desired Data from Bakery Database. We have created the Database Schema and Tables from the provided ER-Diagram and also, we have populated those Tables with valid Data.

ERD:



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Results: When the SQL-Script file is run in SQL-Workbench, SQL created 6 Tables successfully, and populated the respective Tables with valid inserted Data(s).

1. Display the food details that is not purchased by any of customers.

```
85    -- Q1
86 •  select food, flavor from PRODUCTS as pd where not exists (select pid from ITEMLIST where pd.pid = pid);
87
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

food	flavor

2. Show the customer details who had placed more than 2 orders on the same date.

```
88    -- Q2
89 •  SET sql_mode=(SELECT REPLACE(@@sql_mode,'ONLY_FULL_GROUP_BY',''));
90 •  select * from CUSTOMERS as C where C.cid = any(select cid from RECEIPTS group by rdate having count(*) > 2);
91
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

cid	fname	lname
1	Rohit	Seth
4	Shreyas	Gandhi
NULL	NULL	NULL

3. Display the products details that has been ordered maximum by the customers. (Use ALL)

```
93    -- Q3
94 •  select * from PRODUCTS as P where
95    (select count(*) from ITEMLIST I where I.pid = P.pid) > All(
96    select count(*) from ITEMLIST where ITEMLIST.pid != P.pid group by ITEMLIST.pid);
97
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

pid	flavor	food	price
1	meringue	twist	20.00
NULL	NULL	NULL	NULL

4. Show the number of receipts that contain the product whose price is more than the average price of its food type.

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```
99    -- Q4
100   select count(distinct I.rno) from ITEMLIST as I left join PRODUCTS as P on P.pid = I.pid where
101   P.price > (select avg(price) from PRODUCTS where food = P.food);
102
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

count(distinct I.rno)
1

5. Display the customer details along with receipt number and date for the receipts that are dated on the last day of the receipt month.

```
104   -- Q5
105   select CUSTOMERS.cid, CUSTOMERS.fname, CUSTOMERS.lname, RECEIPTS.rno, RECEIPTS.rdate from RECEIPTS left join CUSTOMERS
106   on RECEIPTS.cid = CUSTOMERS.cid where RECEIPTS.rdate = '2022-03-31';
107
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

cid	fname	lname	rno	rdate
2	Rahul	Jain	5	2022-03-31

6. Display the receipt number(s) and its total price for the receipt(s) that contain Twist as one among five items. Include only the receipts with total price more than $25.

```
109   -- Q6
110   select ITEMLIST.rno from ITEMLIST left join PRODUCTS on ITEMLIST.pid = PRODUCTS.pid
111   where 'twist' = Any
112   (select P.food from ITEMLIST as I left join PRODUCTS as P on I.pid = P.pid where ITEMLIST.rno = I.rno)
113   group by ITEMLIST.rno having sum(PRODUCTS.price) > 25;
114
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

rno
2
4
6

7. Display the details (customer details, receipt number, item) for the product that was purchased by least no. of customers.

```
116   -- Q7
117   select C.fname, C.lname, R.rno from RECEIPTS as R left join CUSTOMERS as C on C.cid = R.cid
118   where exists(select ITEMLIST.rno from ITEMLIST left join PRODUCTS on PRODUCTS.pid = ITEMLIST.pid where
119   ITEMLIST.rno = R.rno and PRODUCTS.pid = (select PRODUCTS.pid from PRODUCTS left join ITEMLIST on PRODUCTS.pid = ITEMLIST.pid
120   group by PRODUCTS.pid
121   order by count(*) limit 1));
122
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

fname	lname	rno
Ravindra	Jadeja	6

Refresh data re-executing the original query

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8. Display the customer details along with the receipt number who ordered all the flavors of Meringue in the same receipt.

```
124    -- Q8
125 •  select C.fname, C.lname, R.rno from RECEIPTS as R left join CUSTOMERS as C on C.cid = R.cid
126    where (select count(distinct flavor) from PRODUCTS where food = 'meringue' and flavor =any(
127    select PRODUCTS.flavor from ITEMLIST left join PRODUCTS on ITEMLIST.pid = PRODUCTS.pid where ITEMLIST.rno = R.rno))
128    = (select count(*) from PRODUCTS where food = 'meringue');
129
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

fname	lname	rno
Rohit	Seth	1
Rahul	Jain	5
Rahul	Jain	10
Mohan	Das	8
Mohan	Das	13
Mohan	Das	15
Shreyas	Gandhi	2
Pratap	Thakur	3
Pratap	Thakur	7
Rohan	Nayak	9

9. Display the product details of both Pie and Bear Claw.

```
131    -- Q9
132 •  select * from PRODUCTS P where P.food = 'pie' union select * from PRODUCTS P where P.food = 'bearclaw';
133
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

pid	flavor	food	price

10.Display the customers details who haven't placed any orders.

```
135    -- Q10
136 •  select * from CUSTOMERS as C where not exists ( select R.cid from RECEIPTS R where R.cid = C.cid);
137
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

cid	fname	lname
NULL	NULL	NULL

11. Display the food that has the same flavor as that of the common flavor between the Meringue and Tart.

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```
139     -- Q11
140 •  select distinct food from PRODUCTS as P where P.flavor in (
141     select flavor from PRODUCTS as P_ where P_.food = 'meringue' and
142     P_.flavor in (select flavor from PRODUCTS as P__ where P__.food = 'tart'));
143
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

food

12. Create a view named Blue_Flavor, which display the product details (product id, food, price) of Blueberry flavor.

```
145     -- Q12
146 •  create view blue_flavour
147     as select pid, food, price from PRODUCTS
148     where flavor = 'blueberry';
149
```

13. Create a view named Cheap_Food, which display the details (product id, flavor, food, price) of products with price lesser than $1. Ensure that, the price of these food(s) should never rise above $1 through view.

```
151     -- Q13
152 •  create view cheap_food
153     as  select * from PRODUCTS
154     where price < '1';
155 •  alter table Cheap_Food add check (price < 1.00);
156
```

14. Create a view called Hot_Food that show the product id and its quantity where the same product is ordered more than once in the same receipt.

```
158     -- Q14
159 •  create view `hot_food` as
160     select P.pid, count(*) as quantity from ITEMLIST as I left join PRODUCTS as P on P.pid = I.pid
161     group by I.rno, P.pid having count(*) > 1;
162
```

15. Create a view named Pie_Food that will display the details (customer lname, flavor, receipt number and date, ordinal) who had ordered the Pie food with receipt details.

```
164     -- Q15
165 •   create view `pie_Food` as
166     select C.lname, P.flavor, R.rno, R.rdate, I.ordinal from CUSTOMERS as C, PRODUCTS as P, RECEIPTS as R, ITEMLIST as I where
167     C.cid= R.cid and R.rno = I.rno and I.pid = P.pid and P.food='pie';
168
```

16. Create a view Cheap_View from Cheap_Food that shows only the product id, flavor and food.

```
170     -- Q16
171 •   create view cheap_view
172     as select pid, flavor, food from cheap_food
173
```

Conclusion:

In this Lab Assignment we have seen how to create view based on table(s) or view(s) and observe its behaviour while performing update operations on it and to retrieve desired Data with conditions from SQL Database Tables.