SQL QUERIES AND THEIR RELATIONAL ALGEBRA

- Retrieve the details of the customer who ordered in October

Query Editor | Query History

```
1  select cname,contact, a_city, odr_date from customer as cu
2  join (select * from orders where EXTRACT(MONTH FROM odr_date)=10)as o
3  on o.cus_id=cu.cus_id
4
```

Data Output | Explain | Messages | Notifications

	cname character varying (100)	contact numeric (10)	a_city character varying (100)	odr_date date
1	Tvesa Raj	9155528252	Vadodara	2019-10-06
2	Sitikantha Khan	7555344323	Ahmedabad	2019-10-07
3	Sitikantha Khan	7555344323	Ahmedabad	2019-10-06
4	Bhupen Khan	8555328391	Ahmedabad	2019-10-06
5	Prashanta Patel	8555056797	Surat	2019-10-06
6	Ashwin Jain	8555649926	Surat	2019-10-06
7	Akbar Khan	9555562263	Vadodara	2019-10-06
8	Madhula Kumar	9655597030	Rajkot	2019-10-06
9	Ravishu Singh	7555757494	Rajkot	2019-10-06

$$\pi_{ename,\ contact}\left(\rho(cu,(customer)) \bowtie_{<cu.cus\_id = o.cus\_id>} (\rho(o,\ (\sigma(extract(month\ from\ odr\_date) = 10)\ (orders))))\right)$$

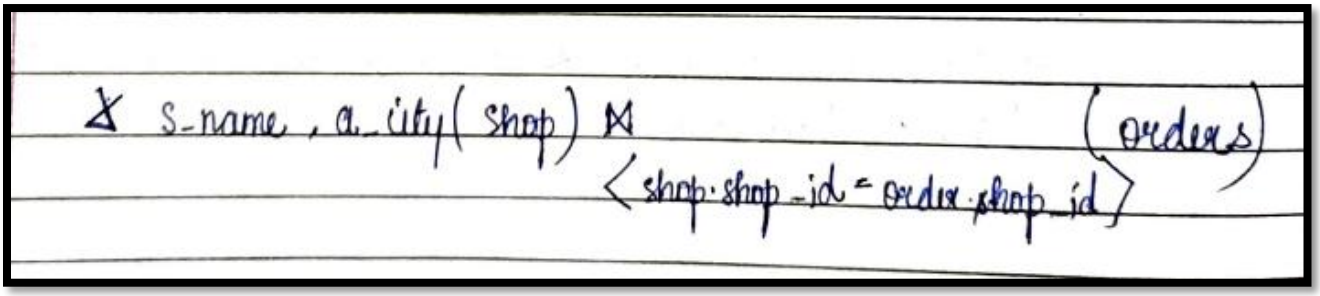
- Retrieve the details of the shops who have served the customer till now

Query Editor | Query History

```
1  select distinct s_name,a_city from shop join orders using (shop_id)
```

Data Output | Explain | Messages | Notifications

	s_name character varying (70)	a_city character varying (70)
1	650 Global kitchen	Surat
2	Ambrosia Restaurant	Vadodara
3	Brooks cafe	Rajkot
4	Elysium Cafe	Rajkot
5	La Quello	Ahmedabad
6	Mandap	Ahmedabad
7	sphere lounge	Vadodara
8	The Dugout Cafe	Surat



- Count the number of complaints made for each problem.

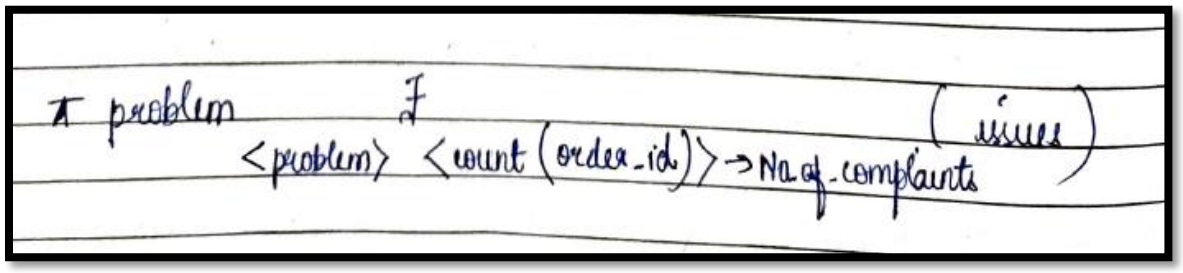
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  SELECT order_id, problem, details, status from issue order by (order_id)
2
3
```

Data Output | Explain | Messages | Notifications

	order_id character varying (130)	problem character varying (80)	details character varying (2000)	status character varying (100)
1	ODR001	food	wrong food delivered	under process
2	ODR001	delivery	delivered boy was rude	under process



- Count the number of orders placed by each customer.

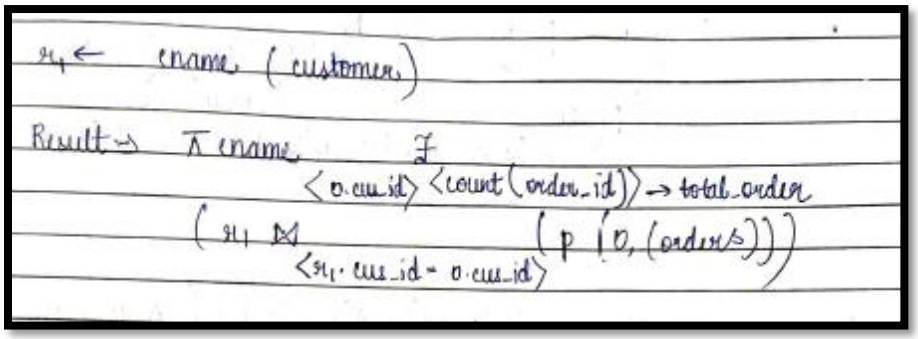
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select cname,o.total_order from customer join (
2    select count(oo.order_id) as total_order,oo.cus_id
3      from orders as oo group by oo.cus_id)as o using (cus_id)
4
```

Data Output | Explain | Messages | Notifications

	cname character varying (100)	total_order bigint
1	Tvesa Raj	1
2	Sitikantha Khan	2
3	Bhupen Khan	1
4	Prashanta Patel	1
5	Ashwin Jain	1
6	Akbar Khan	1
7	Madhula Kumar	1
8	Ravishu Singh	1



- Retrieve the details of the employee who have the salary greater than the average salary of all the employees of that department.

onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select emp_id,ename,department,salary from employee as e
2  where salary > (select avg(salary) from employee
3  where department=e.department)order by department
```

Data Output | Explain | Messages | Notifications

	emp_id [PK] character varying (20)	ename character varying (100)	department character varying (100)	salary numeric (5)
1	EMP062	Surdeep Patel	delivery	20000
2	EMP061	Palashranjan Singh	delivery	20000
3	EMP064	Aalap Patel	delivery	20000
4	EMP063	Buddhadev Khan	delivery	20000
5	EMP021	Prayag Khan	finances	60000
6	EMP022	Samar Raj	finances	60000
7	EMP042	Sarakshi Khan	HR	55000
8	EMP041	Tapan Kumar	HR	55000
9	EMP059	Kusumakar Raj	sales and marketing	45000
10	EMP060	Milap Singh	sales and marketing	45000
11	EMP032	Sundha Patel	tech support	35000

π e.name, department, salary (employee) SEMI JOIN

$\langle salary \rangle > avg(salary) \rangle (\rho (emp, employee))$

$\sigma \langle employee.department = emp.department \rangle$

- Calculate the average salary of all the department.

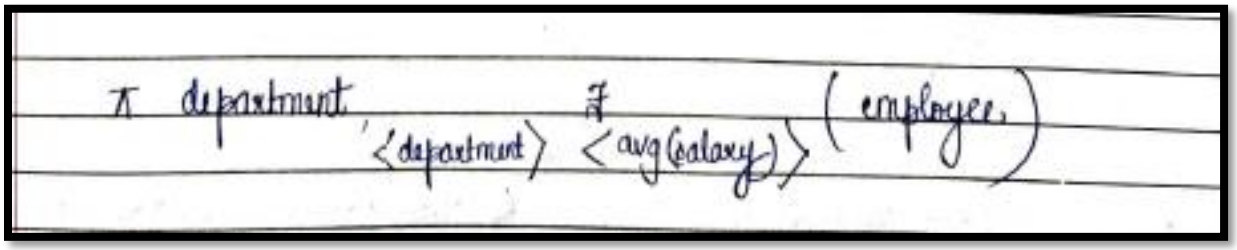
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select avg(salary) as average_salary, department from employee
2  group by department
3
```

Data Output | Explain | Messages | Notifications

	average_salary numeric	department character varying (100)
1	18250.000000000000	delivery
2	41000.000000000000	sales and marketing
3	31000.000000000000	tech support
4	51000.000000000000	HR
5	56000.000000000000	finances



- Select the food item that are in demand from '2019-08-30' and '2019-10-07'

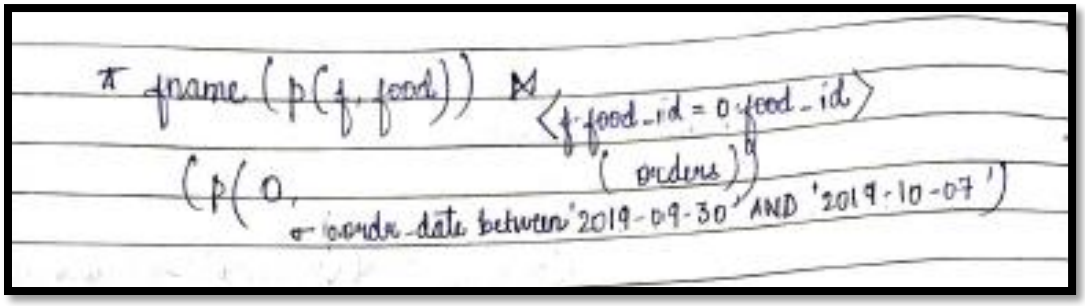
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select f_name from food where food_id in
2  (select food_id from orders where odr_date between '2019-08-30' and '2019-10-07' )
3
```

Data Output | Explain | Messages | Notifications

	f_name character varying (100)
1	Chole Biryani
2	Butter Tawa Paratha
3	Chinese Bhel
4	Paneer Tikka Frankie
5	Amul Masti Chach
6	Afghan Dry Fruit Ice Cream[...
7	Halwa[200GM]



- List all the customers who have ordered only ones till now.

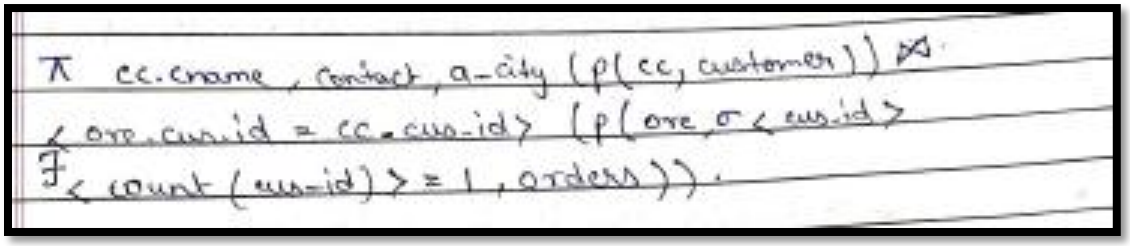
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select cc.cus_id ,cname,contact,a_city from customer as cc
2      join (select cus_id,count(cus_id) from orders
3        group by cus_id having count(cus_id)=1) as ore on ore.cus_id=cc.cus_id
4
```

Data Output | Explain | Messages | Notifications

	cus_id [PK] character varying (20)	cname character varying (100)	contact numeric (10)	a_city character varying (100)
1	CUS033	Tvesa Raj	9155528252	Vadodara
2	CUS021	Bhupen Khan	8555328391	Ahmedabad
3	CUS030	Prashanta Patel	8555056797	Surat
4	CUS031	Ashwin Jain	8555649926	Surat
5	CUS034	Akbar Khan	9555562263	Vadodara
6	CUS042	Madhula Kumar	9655597030	Rajkot
7	CUS043	Ravishu Singh	7555757494	Rajkot



- Retrieve the names of the top 3 shops on the basis of number of orders received by them.

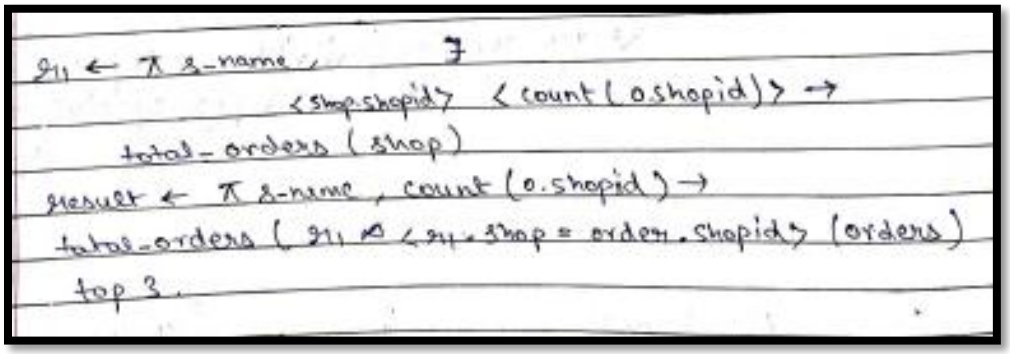
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select s_name,contact,a_city ,count(o.shop_id) as total_order from shop
2  join orders as o using (shop_id)
3  group by shop.shop_id
4  order by count(o.shop_id) desc
5  limit 3
6
```

Data Output | Explain | Messages | Notifications

	s_name character varying (70)	contact numeric (10)	a_city character varying (70)	total_order bigint
1	Mandap	9561667666	Ahmedabad	2
2	sphere lounge	9050802634	Vadodara	1
3	Brooks cafe	9010480847	Rajkot	1



- Select all the customers and the total payments done by them.

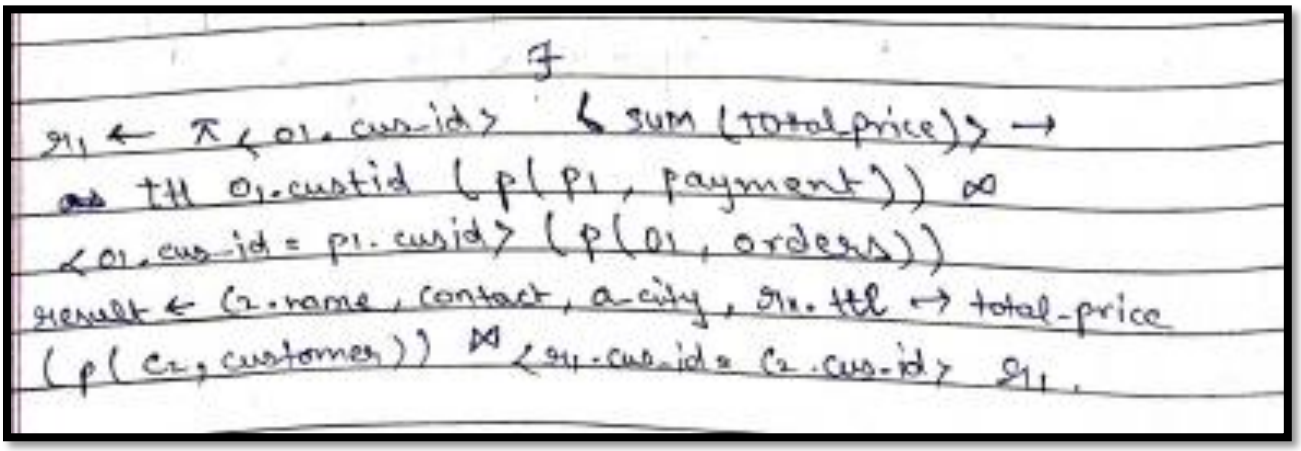
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1   select c2.cname, contact,a_city as customer_name, re2.ttl as total_price
2       from customer as c2 join
3           (select sum(total_price) as ttl,o1.cus_id from payment as p1
4            join orders as o1 on(o1.order_id=p1.order_id)
5           group by o1.cus_id having sum(total_price)>500) as re2
6       on(re2.cus_id = c2.cus_id)
7
```

Data Output | Explain | Messages | Notifications

	cname character varying (100)	contact numeric (10)	customer_name character varying (100)	total_price numeric
1	Ashwin Jain	8555649926	Surat	531.00
2	Akbar Khan	9555562263	Vadodara	570.00



- List the employees who got the avg rating greater than 4

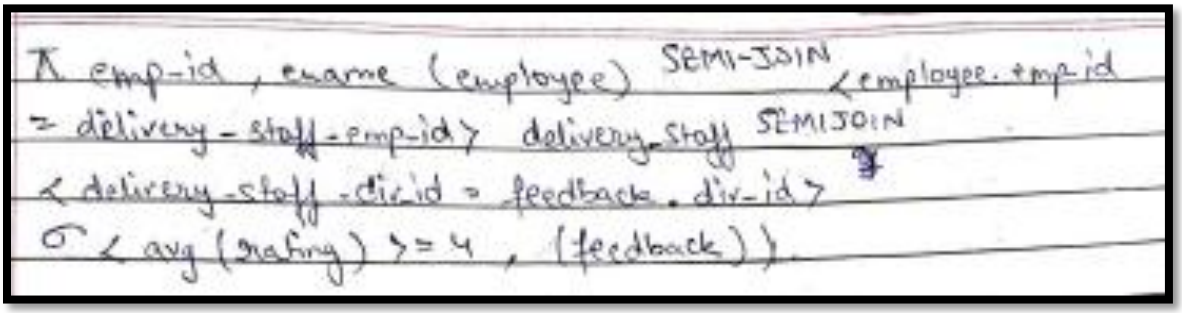
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select emp_id ,ename from employee where
2      emp_id in(select emp_id from delivery_staff where
3            div_id in (select div_id from feedback group by div_id
4                       having avg(rating)>=4 ))
```

Data Output | Explain | Messages | Notifications

	emp_id [PK] character varying (20)	ename character varying (100)
1	EMP070	Shulabh Kumar



- List all the customers who have not ordered anything till now.

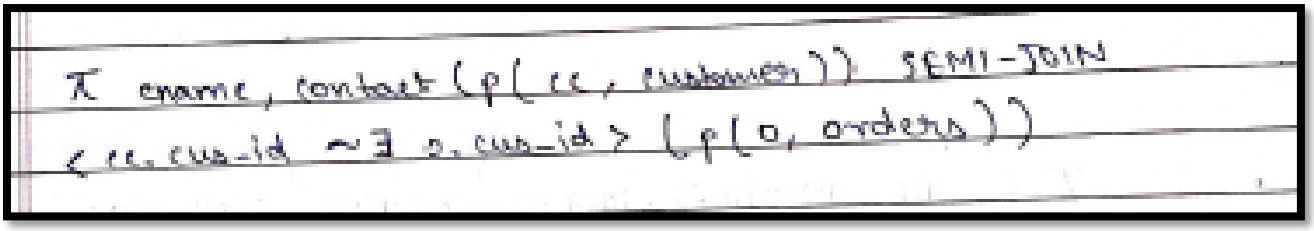
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select cus_id,cname,contact from customer cc where
2  not exists (select 1 from orders o where o.cus_id=cc.cus_id)
```

Data Output | Explain | Messages | Notifications

	cus_id [PK] character varying (20)	cname character varying (100)	contact numeric (10)
1	CUS039	Abhicandra Kumar	7555550902
2	cus002	nipun	7405428121
3	cus003	nipun	7405428131
4	CUS012	Sukesh Kumar	8555763062
5	CUS013	Prasoon Khan	7555677842
6	CUS014	Ekansh Patel	8555043791
7	CUS015	Mangal Singh	9355574063
8	CUS016	Aslesha Jain	7555371464
9	CUS017	Chitresh Raj	7555246600
10	CUS019	Priyanka Kumar	7555711815
11	CUS020	Girika Kumar	9155591755



- Count the total number of employees in each department

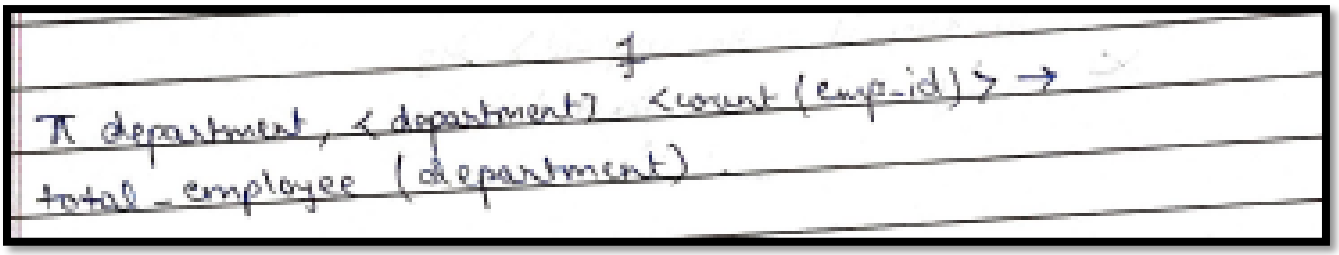
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select department,count(emp_id) as total_employee from employee group by department
```

Data Output | Explain | Messages | Notifications

	department character varying (100)	total_employee bigint
1	delivery	16
2	sales and marketing	10
3	tech support	10
4	HR	10
5	finances	10



- List of all the customers who made payment through COD

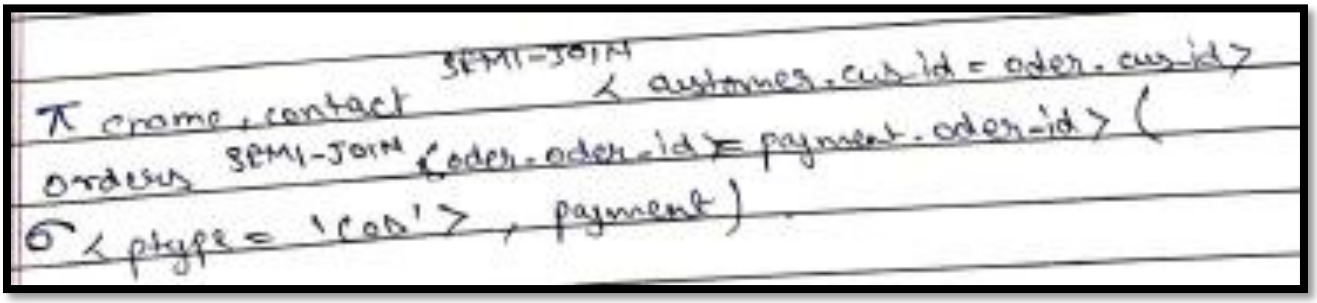
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select cus_id,cname,a_city, contact from customer where cus_id in(
2      select cus_id from orders where order_id in
3      (select order_id from payment where p_type='COD'))
4
```

Data Output | Explain | Messages | Notifications

	cus_id [PK] character varying (20)	cname character varying (100)	a_city character varying (100)	contact numeric (10)
1	CUS034	Akbar Khan	Vadodara	9555562263
2	CUS031	Ashwin Jain	Surat	8555649926
3	CUS030	Prashanta Patel	Surat	8555056797
4	CUS018	Sitikantha Khan	Ahmedabad	7555344323
5	CUS043	Ravishu Singh	Rajkot	7555757494
6	CUS021	Bhupen Khan	Ahmedabad	8555328391
7	CUS033	Tvesa Raj	Vadodara	9155528252
8	CUS042	Madhula Kumar	Rajkot	9655597030



- Retrieve the details of the employee who have their issue status as pending.

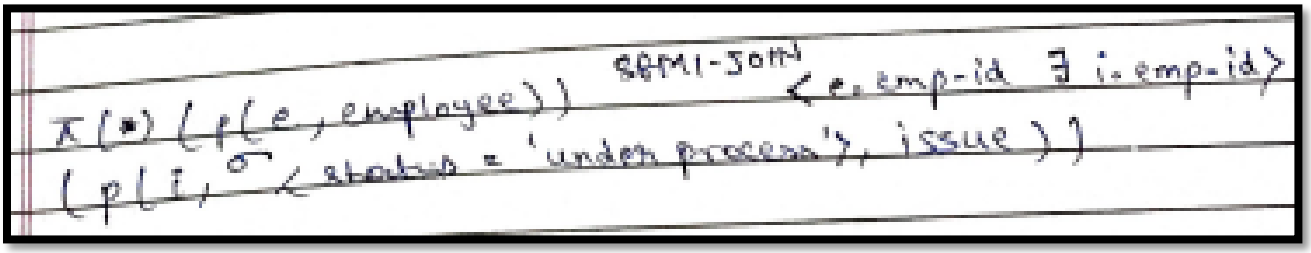
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select * from employee as e where  exists (select emp_id from issue
2  as i where status='under process' and i.emp_id=e.emp_id)
```

Data Output | Explain | Messages | Notifications

	emp_id [PK] character varying (20)	ename character varying (100)	email character varying (100)	contact numeric (10)	a_state character varying (100)	a_city character varying (100)
1	EMP032	Sundha Patel	sunpatel@denge.com	9155591753	Gujarat	Rajkot



- List the details of the shops and the customers who have served the customers older than 25 years.

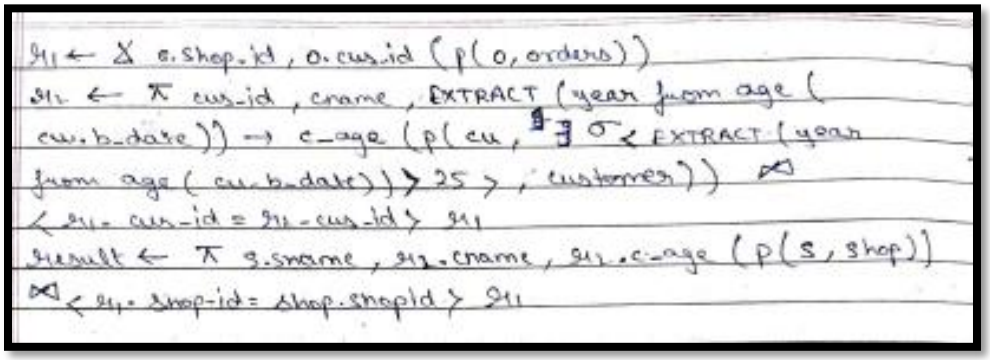
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select s.s_name,cus1.cname,cus1.c_age from shop as s join
2  (select distinct o.shop_id ,o.cus_id from  orders as o)as odr on (odr.shop_id=s.shop_id)
3    join (select cus_id ,cname,extract(YEAR from age(cu.b_date)) as c_age
4       from customer as cu where extract(YEAR from age(cu.b_date))>25)as cus1 on (odr.cus_id=cus1.cus_id)
5
```

Data Output | Explain | Messages | Notifications

	s_name character varying (70)	cname character varying (100)	c_age double precision
1	Brooks cafe	Ravishu Singh	29
2	The Dugout Cafe	Ashwin Jain	29
3	650 Global kitchen	Prashanta Patel	27



- Retrieve customer name, food name and the shop from which the customer had placed the order.

onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  SELECT cus_id, cname, food_id, f_name,quantity, s_name from customer
2  inner join orders using (cus_id)
3  inner join food using (food_id)
4  inner join shop using(shop_id)
5  order by cus_id
```

Data Output | Explain | Messages | Notifications

	cus_id character varying	cname character varying (100)	food_id character varying	f_name character varying (100)	quantity numeric (3)	s_name character varying (70)
1	CUS018	Sitikantha Khan	FOD021	Amul Masti Chach	2	Mandap
2	CUS018	Sitikantha Khan	FOD021	Amul Masti Chach	2	Mandap
3	CUS021	Bhupen Khan	FOD080	Halwa[200GM]	2	La Quello
4	CUS030	Prashanta Patel	FOD023	Chole Biryani	3	650 Global kitchen
5	CUS031	Ashwin Jain	FOD021	Amul Masti Chach	3	The Dugout Cafe
6	CUS033	Tvesa Raj	FOD038	Butter Tawa Paratha	3	sphere lounge
7	CUS034	Akbar Khan	FOD046	Chinese Bhel	3	Ambrosia Restaurant
8	CUS042	Madhula Kumar	FOD055	Paneer Tikka Frankie	2	Elysium Cafe
9	CUS043	Ravishu Singh	FOD069	Afghan Dry Fruit Ice Cream[...	2	Brooks cafe

$r_1 \leftarrow \pi$ food_id, shop_id, cus_id (orders)

$r_2 \leftarrow \pi$ food_id, f_name, (food)

$r_3 \leftarrow \pi$ shop_id, s_name (shop)

Result $\leftarrow$ cname, r_3.sname, r_2.f_name (customers)

$\bowtie$ < r_1.cus_id = customers.cus_id > r_1

$\bowtie$ < r_1.shop_id = r_3.shop_id > r_3

$\bowtie$ < r_1.food_id = r_2.food_id > r_2

- List the shop who serves all the types of beverages.

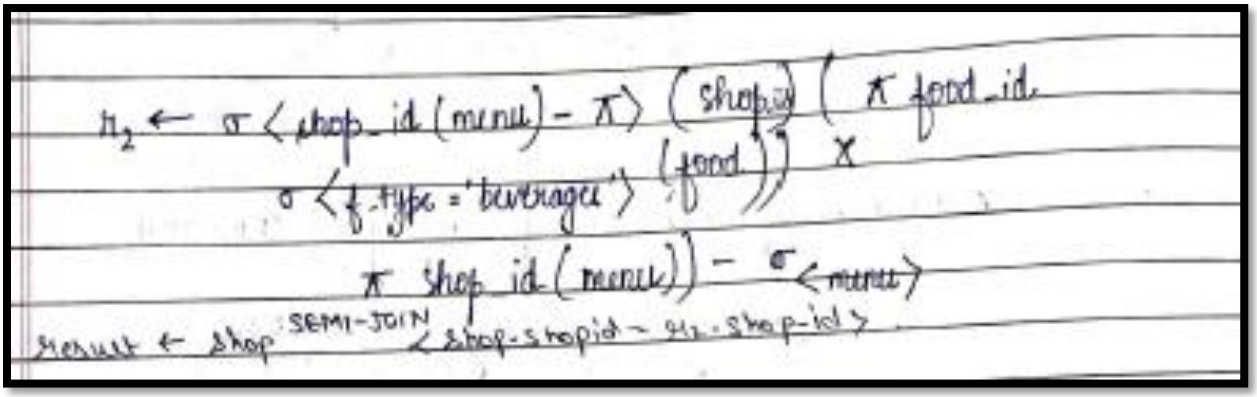
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select s_name,a_city,contact from shop where shop_id in
2  (select distinct shop_id from menu
3   except (select shop_id from
4  (select me.shop_id as shop_id, fo.food_id as food_id
5   from menu as me cross join (select food_id from food where f_type='Beverages') as fo
6  except select shop_id, food_id from menu) as r2
7  ) )
```

Data Output | Explain | Messages | Notifications

	s_name character varying (70)	a_city character varying (70)	contact numeric (10)
1	The Dugout Cafe	Surat	9479529558



- List the food items and their count that how many times it has been ordered

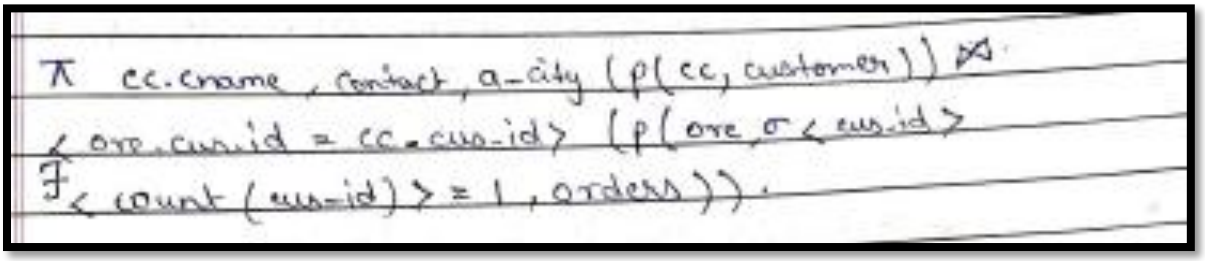
onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select distinct f_name ,count (odr.food_id) from food
2  left join orders as odr using (food_id)
3  group by f_name
4  order by count (odr.food_id) desc
5
```

Data Output | Explain | Messages | Notifications

	f_name character varying (100)	count bigint
1	Amul Masti Chach	3
2	Afghan Dry Fruit Ice Cream[...	1
3	Butter Tawa Paratha	1
4	Chinese Bhel	1
5	Chole Biryani	1
6	Halwa[200GM]	1
7	Paneer Tikka Frankie	1
8	Aam Panna	0
9	Aloo Gobhi Matar	0



- List the shops from surat who served all the food items

onlinefooddelivery/postgres@onlinefooddelivery

Query Editor | Query History

```
1  select distinct shop_id from menu
2  where shop_id not in ( select shop_id from
3  ( select w.food_id as essn, proj.shop_id as pno from menu as w cross join
4   (select shop_id from shop where a_city='Surat') as proj
5  except select shop_id, food_id from menu ) as r2 )
6
```

Data Output | Explain | Messages | Notifications

shop_id
character varying (130)