INPUT TABLES:-

Patient table:-

```
lab2=# select * from patient;
 p_id |  patient_name  | sex | age |   city   | h_id |        area
------+----------------+-----+-----+----------+------+--------------------
    1 | Sheldon Cooper | M   |  23 | Goa      |    3 | Goan Square
    3 | George         | M   |  13 | Goa      |    4 | Goan Square
    2 | Kumar          | M   |  12 | Goa      |    3 | NK2 Square
    6 | Princess Zelda | F   |  19 | kakkanad |    5 | Folks Circle
    4 | stephen        | M   |  13 | kakkanad |    4 | Jewish Peace Village
    5 | Georgina       | F   |  13 | kakkanad |    4 | Metro Walk Zone
    7 | Singh          | M   |  29 | kakkanad |    5 | Folks Circle
(7 rows)
```

Hospital table:-

```
lab2=# select * from hospital;
 h_id | hospital_name  | location  |    state
------+----------------+-----------+-------------
    1 | kims           | chennai   | tamil nadhu
    3 | cmc ludhiana   | rajasthan | rajasthan
    5 | tata hospitals | bangalore | karantaka
    4 | apollo         | kakkanad  | kerala
    6 | Aster Medicity | kochi     | kerala
(5 rows)
```

Test Report table:-

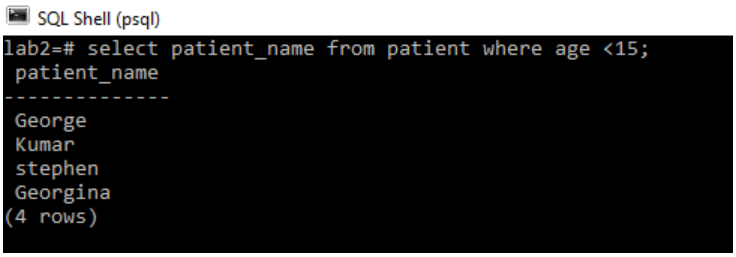
```
lab2=# select * from test_report;
 t_id | p_id | reporting_date | test_result | discharge_date | h_id
------+------+----------------+-------------+----------------+------
    1 |    1 | 2020-07-02     | positive    | 2020-07-31     |    1
    2 |    2 | 2020-07-03     | positive    | 2020-07-29     |    1
    3 |    5 | 2020-07-02     | negative    | 2020-08-03     |    4
    4 |    6 | 2020-07-04     | positive    | 2020-08-07     |    4
    5 |    3 | 2021-08-21     | negative    | 2021-08-23     |    1
    6 |    7 | 2020-08-23     | positive    | 2020-08-28     |    5
    7 |    4 | 2020-08-04     | positive    | 2020-09-08     |    1
(7 rows)
```

COMMANDS & OUTPUTS

1:-

Find the name of all patients who is lesser than 15 years old.

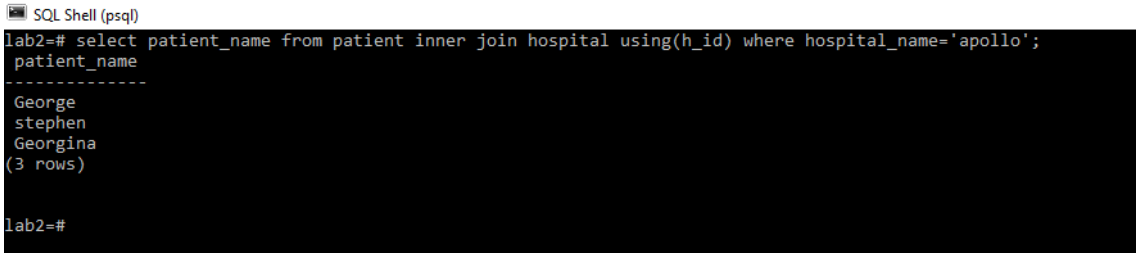
- select patient_name from patient where age <15;



2:-

Find the name of patients who has admitted in Apollo hospital.

- select patient_name from patient inner join hospital using(h_id) where hospital_name='apollo';



3:-

Find the name of hospital that has a fastest recovery ratio.

- **Option1: -**
  select hospital_name , avg(discharge_date - reporting_date) as "Avg Days to Recover" from hospital inner join test_report using(h_id) group by hospital_name order by avg(discharge_date -reporting_date) limit 1;
- **Option2: -**
  select hospital_name , avg(discharge_date - reporting_date) as "Avg Days to Recover" from hospital inner join test_report using(h_id) group by hospital_name having avg(discharge_date - reporting_date) = (Select min(avg_days) from (select avg(discharge_date - reporting_date) as avg_days from hospital inner join test_report using(h_id) group by hospital_name) sq);

```
SQL Shell (psql)
lab2=# select hospital_name , avg(discharge_date - reporting_date) as "Avg Days to Recover" from hospital inner join test_report using(h_id) group by hospital_name orde
r by avg(discharge_date -reporting_date) limit 1;
 hospital_name  | Avg Days to Recover
----------------+---------------------
 tata hospitals |  5.000000000000000
(1 row)


lab2=#
```

4:-

Create a view on test results based on reporting date of last three months.

- create view q3_LAST3MONTHS as select t_id, (current_date - reporting_date) as "No of Days since Reporting" from test_report where (current_date - reporting_date)<=90;

```
SQL Shell (psql)
lab2=# create view q3_LAST3MONTHS as select t_id, (current_date - reporting_date) as "No of Days since Reporting" from test_report where (current_date - reporting_date)
<=90;
CREATE VIEW
lab2=# select * from q3_last3months;
 t_id | No of Days since Reporting
------+----------------------------
    5 |                         13
(1 row)
```

5:-

Find name and age of all patients whose test result is negative.

- select patient_name, age from patient inner join test_report using(p_id) where test_result='negative';

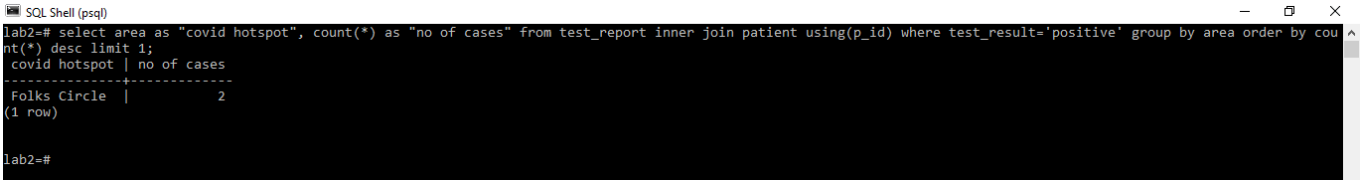
```
SQL Shell (psql)
lab2=# select patient_name, age from patient inner join test_report using(p_id) where test_result='negative';
 patient_name | age
--------------+-----
 George       |  13
 Georgina     |  13
(2 rows)


lab2=#
```

6:-

Find the hotspot area in a district based on the test results.

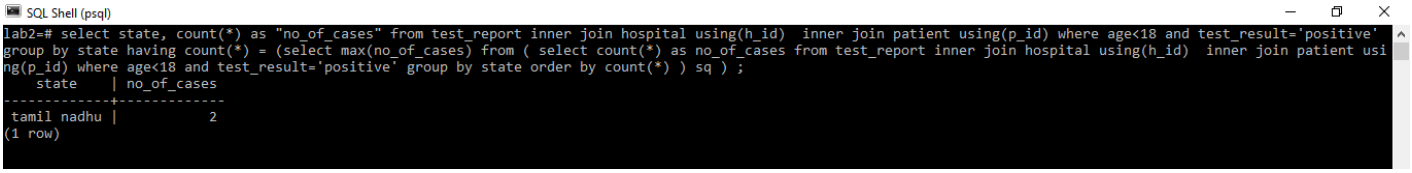
- **Option1: -**
  select area as "covid hotspot", count(*) as "no of cases" from test_report inner join patient using(p_id) where test_result='positive' group by area order by count(*) desc limit 1;
- **Option2: -**
  select area as "covid hotspot", count(*) as "no of cases" from test_report inner join patient using(p_id) where test_result='positive' group by area having count(*) = (Select max(no_of_cases) from (select count(*) as no_of_cases from test_report inner join patient using(p_id) where test_result='positive' group by area) sq);



7:-

List out the state**S**, which has reported with maximum child COVID cases.

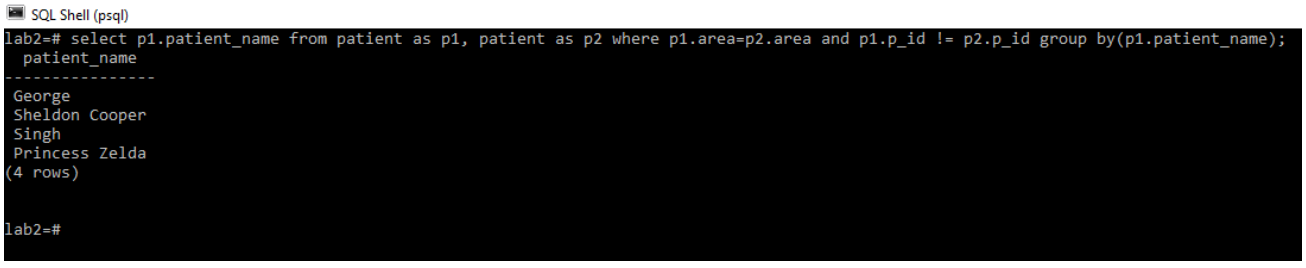
- **Option1: -**
  select state , count(*) as "no of cases" from test_report inner join hospital using(h_id) inner join patient using(p_id) where age<18 and test_result='positive' group by state order by count(*) desc limit 1;
- **Option2: -**
  select state, count(*) as "no_of_cases" from test_report inner join hospital using(h_id) inner join patient using(p_id) where age<18 and test_result='positive' group by state having count(*) = (select max(no_of_cases) from (select count(*) as no_of_cases from test_report inner join hospital using(h_id) inner join patient using(p_id) where age<18 and test_result='positive' group by state order by count(*)) sq) ;



8:-

Find the name of the patients who belongs to same area in a particular city.

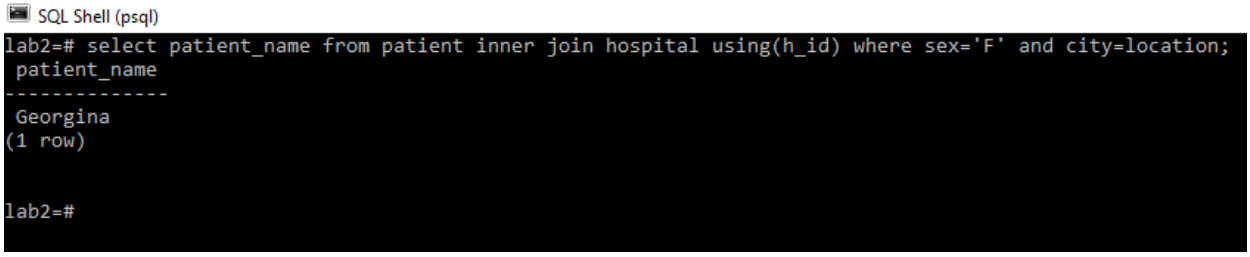
- select p1.patient_name from patient as p1, patient as p2 where p1.area=p2.area and p1.p_id != p2.p_id group by(p1.patient_name);



9:-

Find the number of female patient(s) who has admitted in her city itself

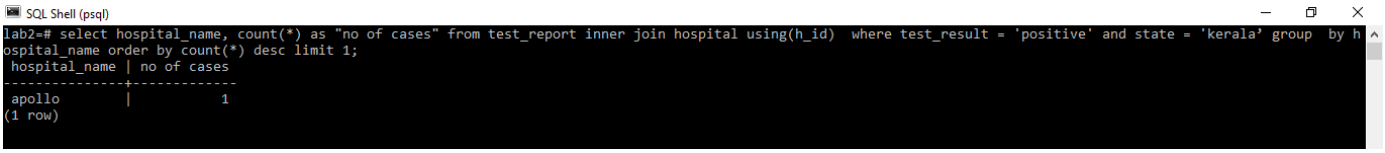
- select patient_name from patient inner join hospital using(h_id) where sex='F' and city=location;



10:-

Find the name of hospital that has admitted with maximum COVID positive cases in a particular state.

- **Option1: -**
  select hospital_name, count(*) as "no of cases" from test_report inner join hospital using(h_id) where test_result = 'positive' and state = 'kerala' group by hospital_name order by count(*) desc limit 1;
- **Option2: -**
  select hospital_name, count(*) from test_report inner join hospital using(h_id) where test_result = 'positive' and state = 'kerala' group by hospital_name having count(*) = (select max(no_of_cases) from (select count(*) as no_of_cases from test_report inner join hospital using(h_id) where test_result = 'positive' and state = 'kerala' group by hospital_name) sq) ;



THANK YOU!