Student presentation

Nearest Hospital and Nearest Hospital Name

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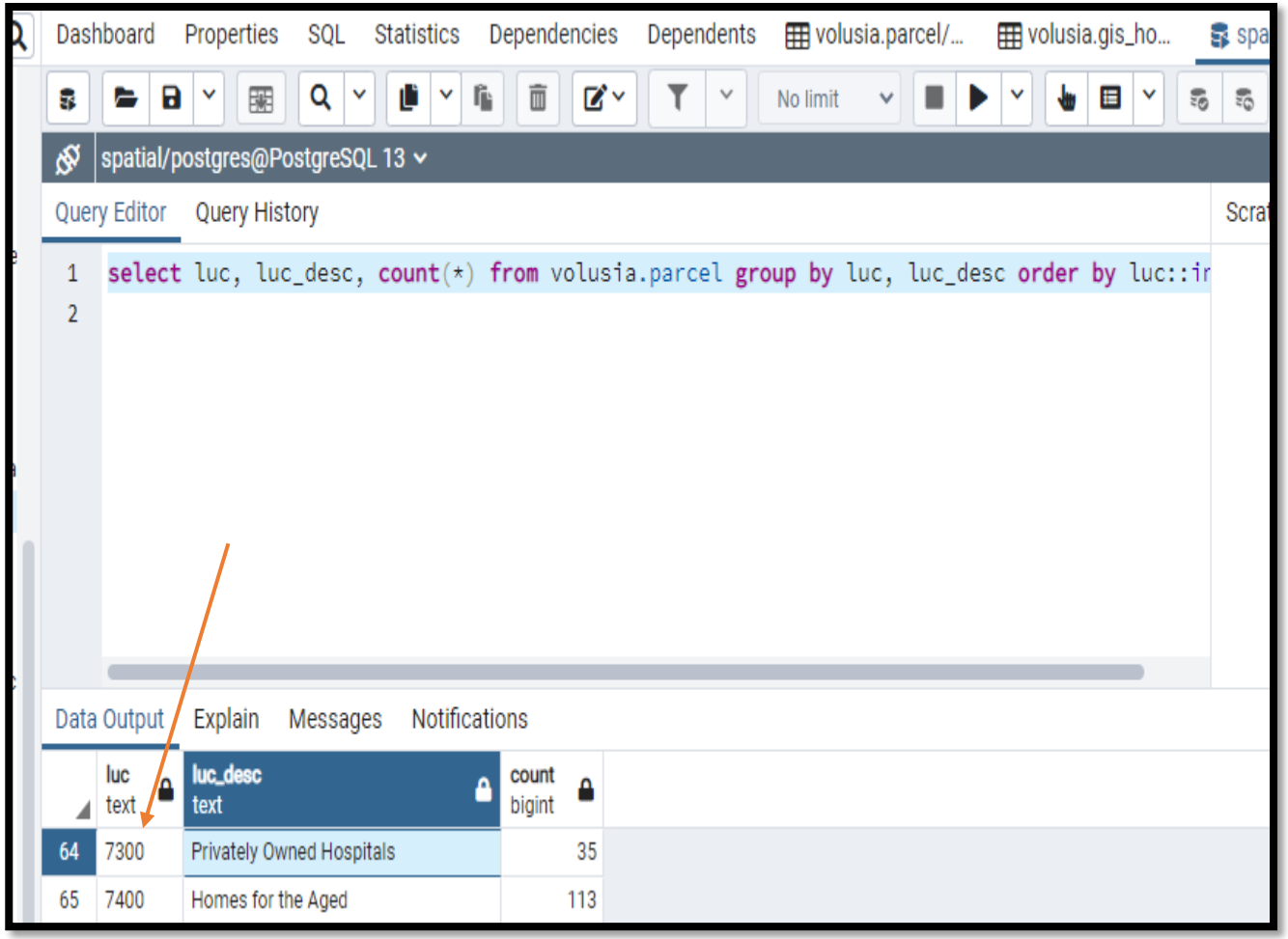
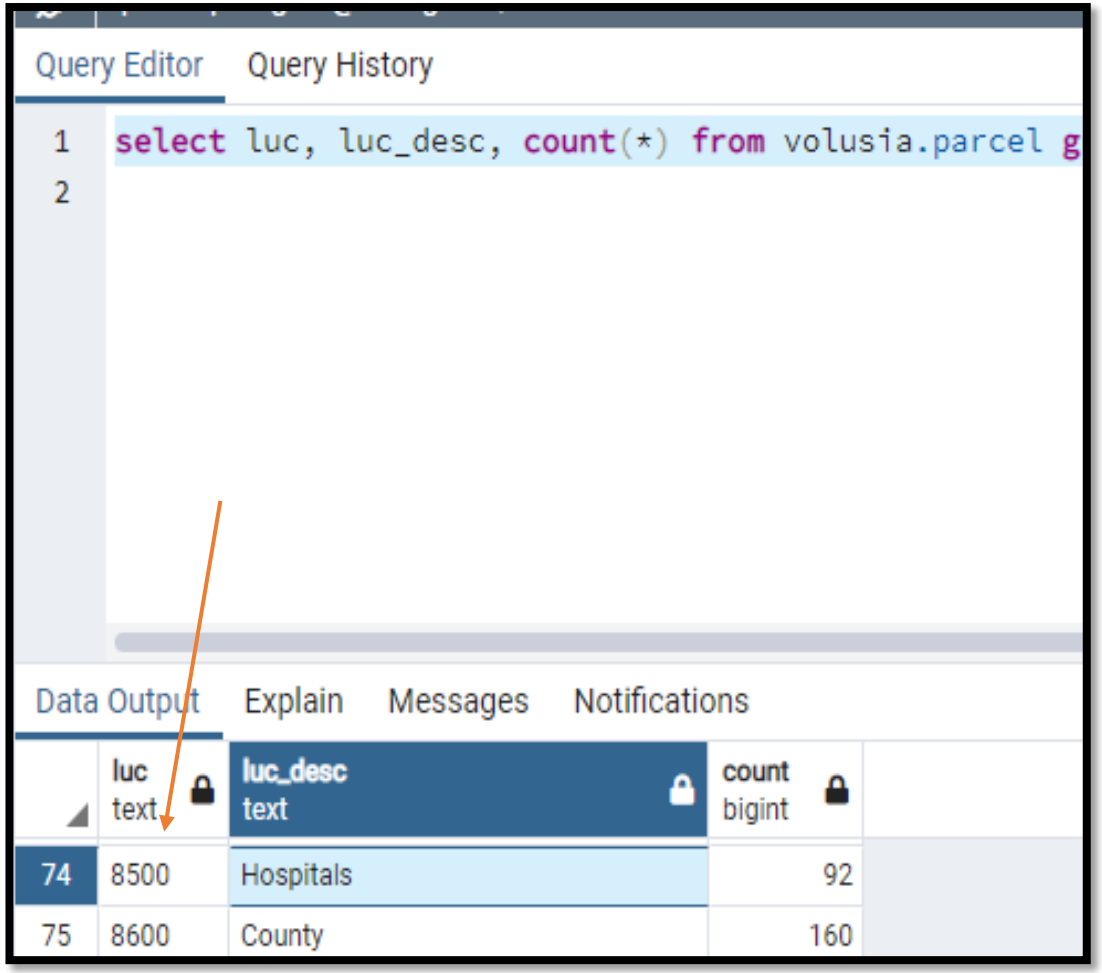
-- To know the hospitals luc number

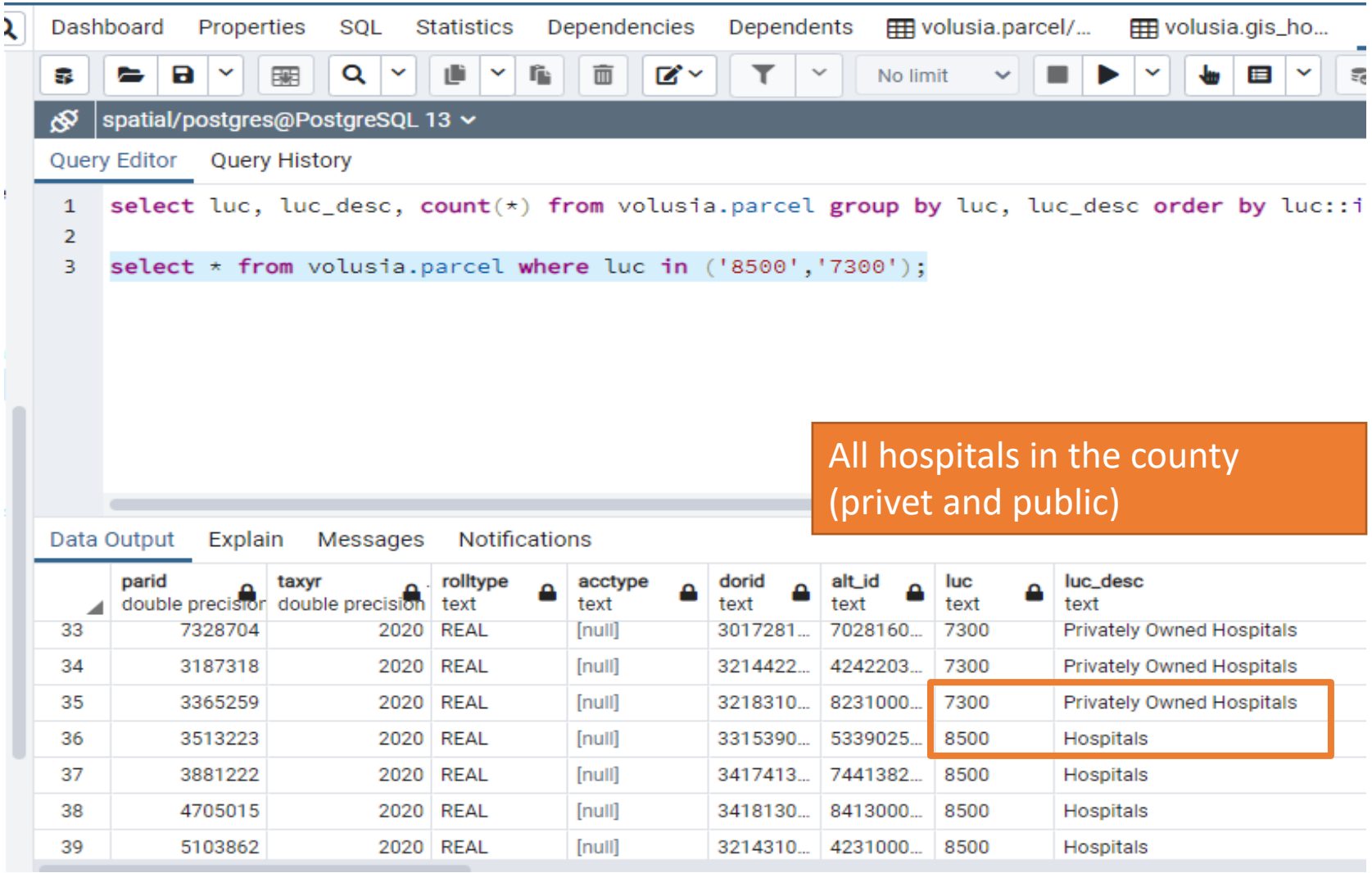
select luc, luc_desc, count(*) from volusia.parcel group by luc, luc_desc order by luc::integer





-- The hospitals in the county have luc of 5800, 7300

select * from volusia.parcel where luc in ('8500','7300');

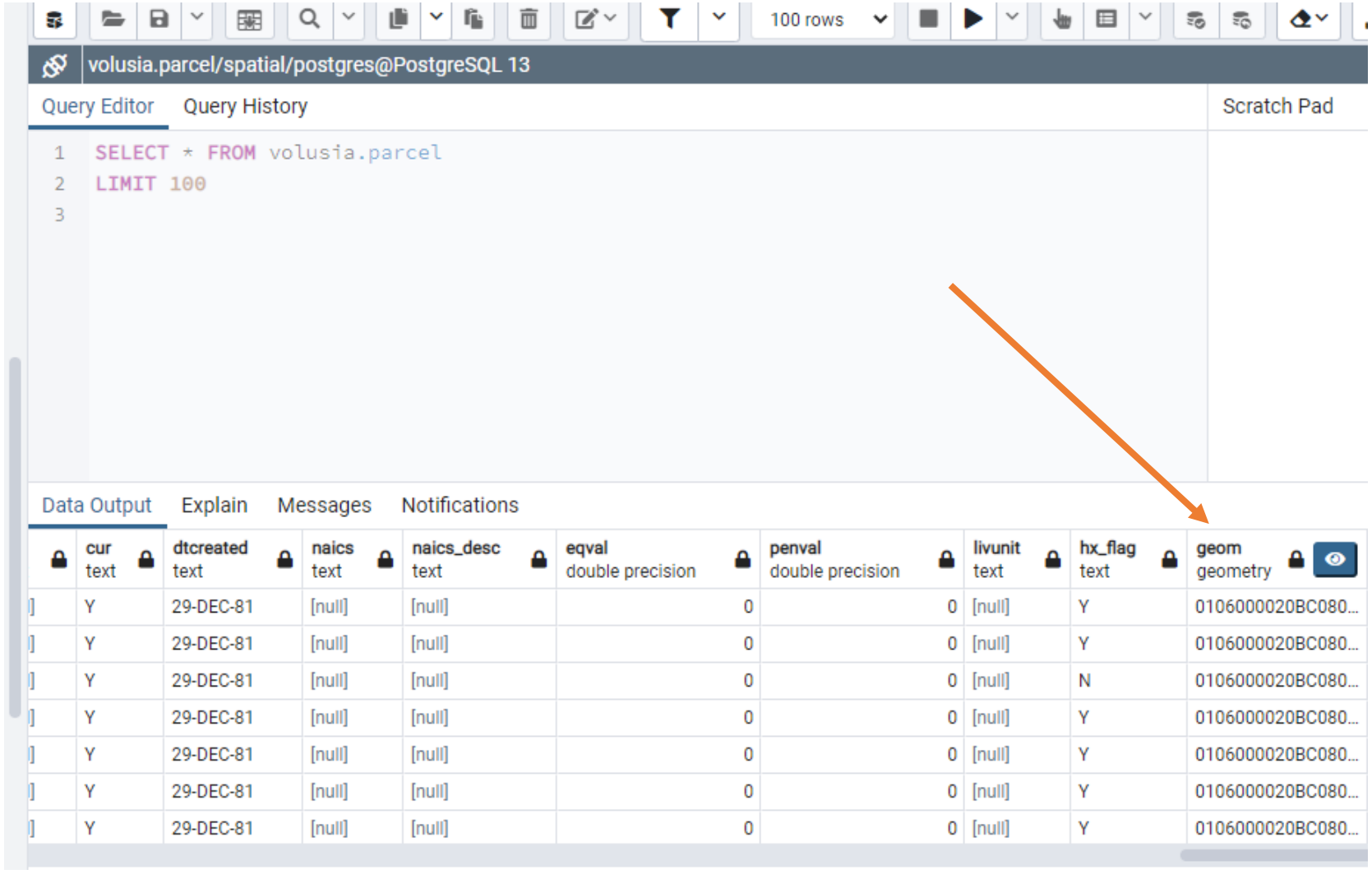


	parid double precision	taxyr double precision	rolltype text	acctype text	dorid text	alt_id text	luc text	luc_desc text
33	7328704	2020	REAL	[null]	3017281...	7028160...	7300	Privately Owned Hospitals
34	3187318	2020	REAL	[null]	3214422...	4242203...	7300	Privately Owned Hospitals
35	3365259	2020	REAL	[null]	3218310...	8231000...	7300	Privately Owned Hospitals
36	3513223	2020	REAL	[null]	3315390...	5339025...	8500	Hospitals
37	3881222	2020	REAL	[null]	3417413...	7441382...	8500	Hospitals
38	4705015	2020	REAL	[null]	3418130...	8413000...	8500	Hospitals
39	5103862	2020	REAL	[null]	3214310...	4231000...	8500	Hospitals

--Add the geometry column to the parcel table and update it.

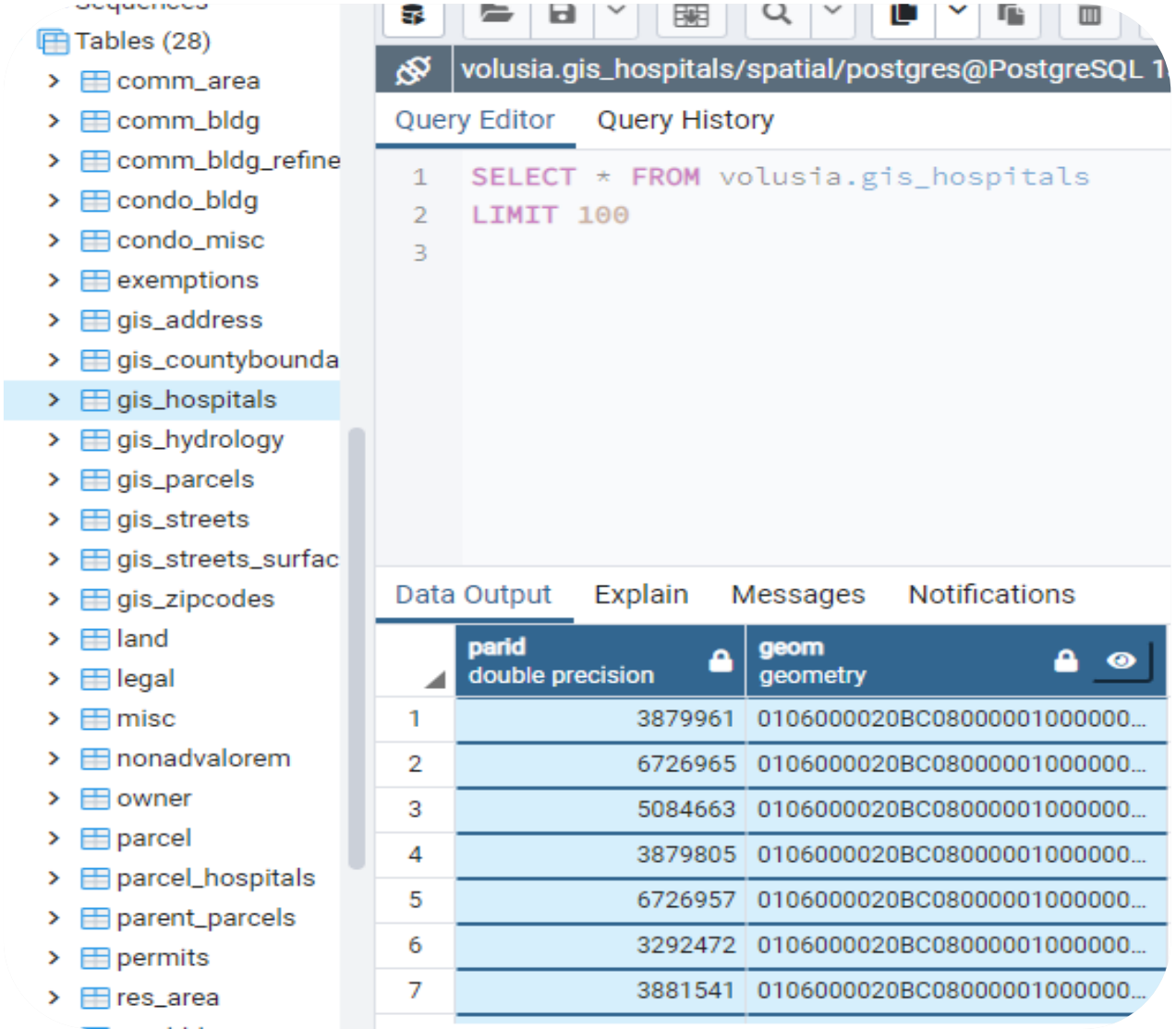
SELECT AddGeometryColumn ('volusia','parcel','geom',2236,'MULTIPOLYGON',2);

update volusia.parcel a set geom = p.geom from volusia.gis_parcels p where a.parid=p.altkey;

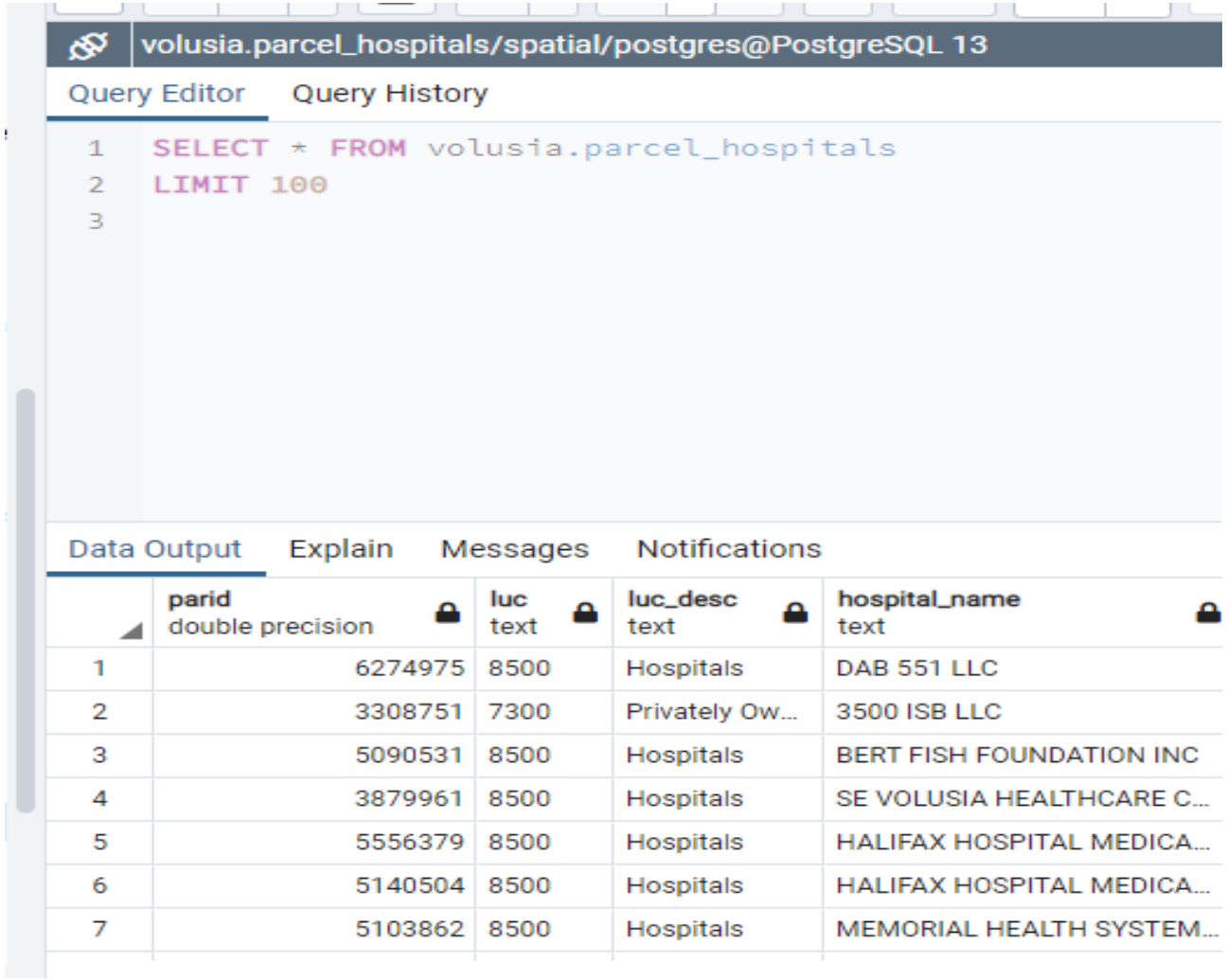


--Create gis_hospital

select parid, geom into volusia.gis_hospitals from volusia.parcel where luc in '8500','7300';



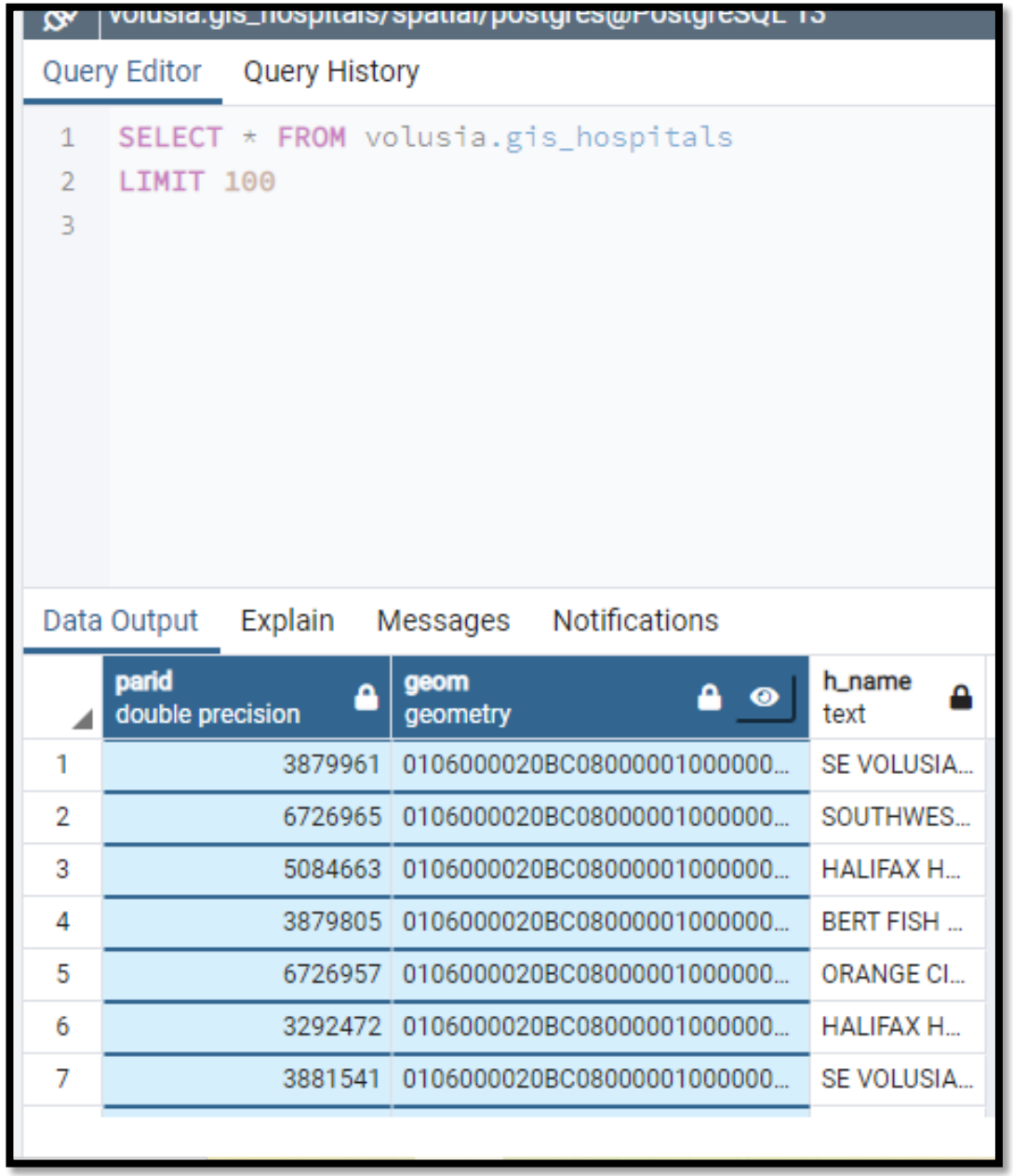
```
--Create parcel_hospitals table and add the data from parcel and owner tables
drop table if exists volusia.parcel_hospitals;

select p.parid, p.luc, p.luc_desc, o.own1 as hospital_name into volusia.parcel_hospitals
from volusia.owner o join volusia.parcel p on o.parid=p.parid where p.luc in ('8500','7300');
```



	parid double precision	luc text	luc_desc text	hospital_name text
1	6274975	8500	Hospitals	DAB 551 LLC
2	3308751	7300	Privately Ow...	3500 ISB LLC
3	5090531	8500	Hospitals	BERT FISH FOUNDATION INC
4	3879961	8500	Hospitals	SE VOLUSIA HEALTHCARE C...
5	5556379	8500	Hospitals	HALIFAX HOSPITAL MEDICA...
6	5140504	8500	Hospitals	HALIFAX HOSPITAL MEDICA...
7	5103862	8500	Hospitals	MEMORIAL HEALTH SYSTEM...

--Add hospitals name into gis_hospitals

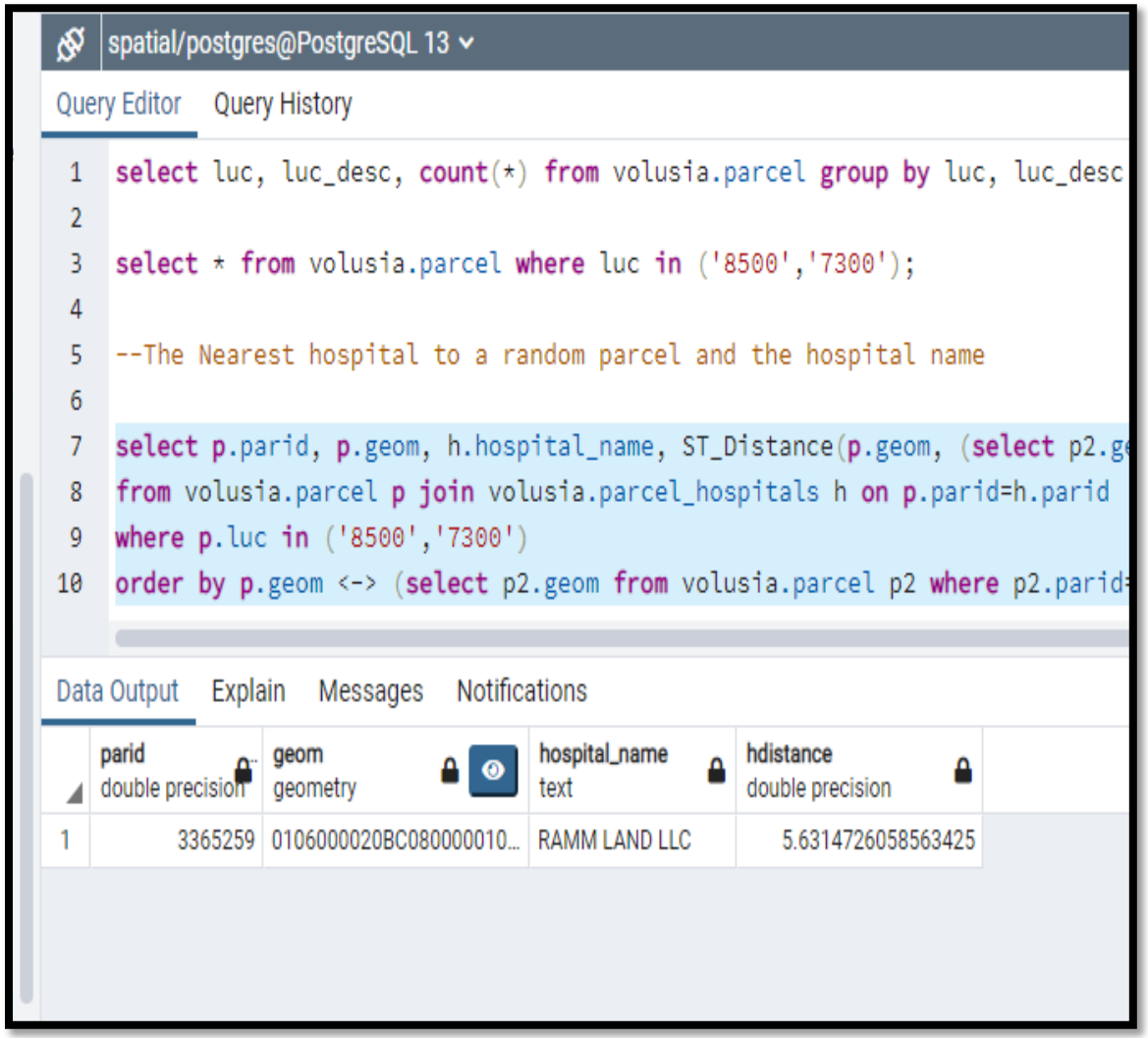
```
alter table volusia.gis_hospitals
add column h_name text;

update volusia.gis_hospitals g
set h_name = h.hospital_name
from volusia.parcel_hospitals h
where g.parid=h.parid;
```



	parid double precision	geom geometry	h_name text
1	3879961	0106000020BC08000001000000...	SE VOLUSIA...
2	6726965	0106000020BC08000001000000...	SOUTHWES...
3	5084663	0106000020BC08000001000000...	HALIFAX H...
4	3879805	0106000020BC08000001000000...	BERT FISH ...
5	6726957	0106000020BC08000001000000...	ORANGE CI...
6	3292472	0106000020BC08000001000000...	HALIFAX H...
7	3881541	0106000020BC08000001000000...	SE VOLUSIA...

--The Nearest hospital to a random parcel and the hospital name

```
select p.parid, p.geom, h.hospital_name,
ST_Distance(p.geom, (select p2.geom from
volusia.parcel p2 where
p2.parid=4841709))/5280 as hdistance
from volusia.parcel p join
volusia.parcel_hospitals h on p.parid=h.parid
where p.luc in ('8500','7300')
order by p.geom <-> (select p2.geom from
volusia.parcel p2 where p2.parid=4841709)
limit 1;
```



--Add hdistance to the parcel table to find the distance from each parcel to the closest hospital

alter table volusia.parcel add column hdistance double precision;

volusia.parcel/spatial/postgres@PostgreSQL 13

Query Editor | Query History | Scratch Pad

```
1  SELECT * FROM volusia.parcel
2  LIMIT 100
3
```

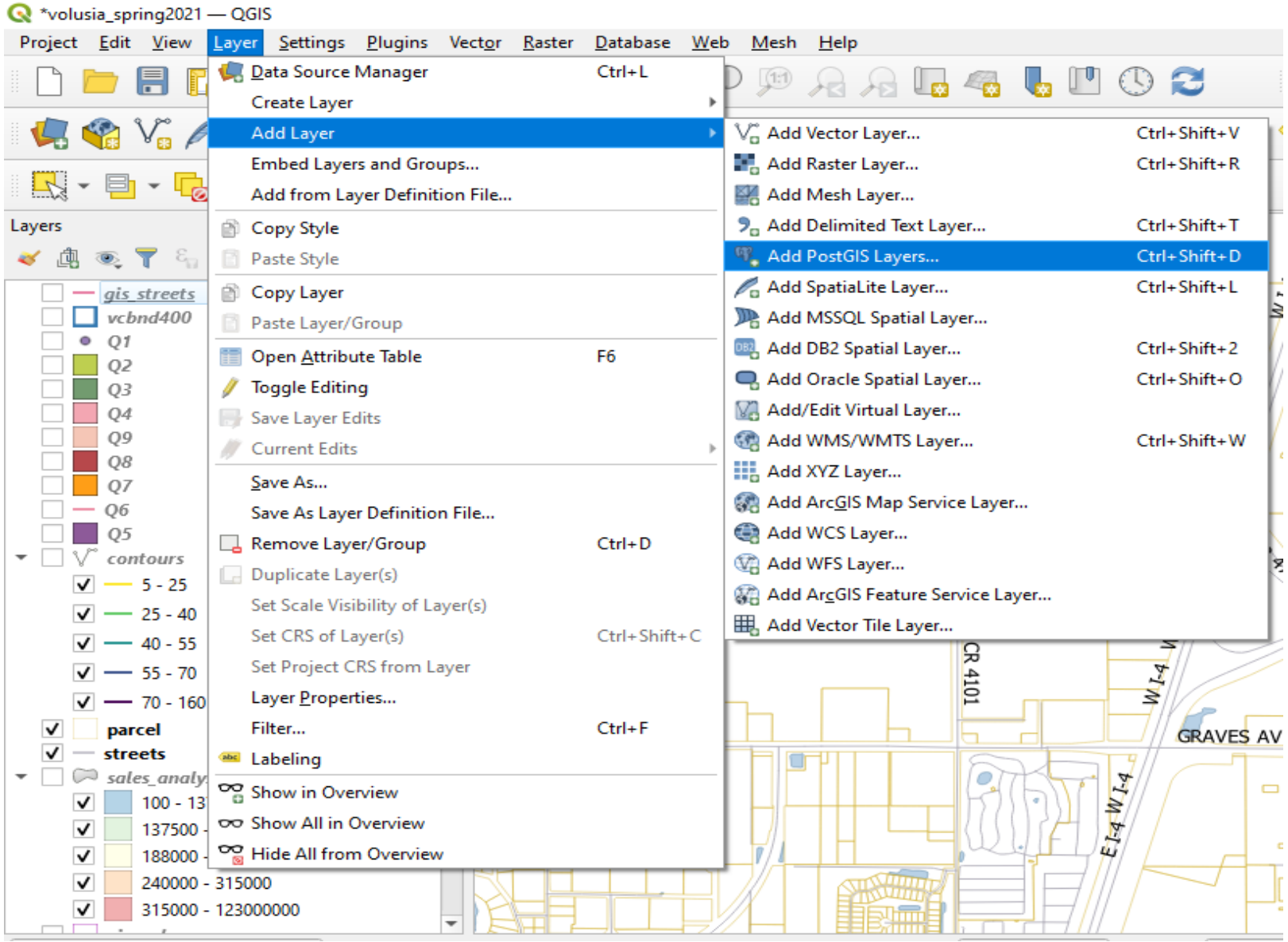
Data Output | Explain | Messages | Notifications

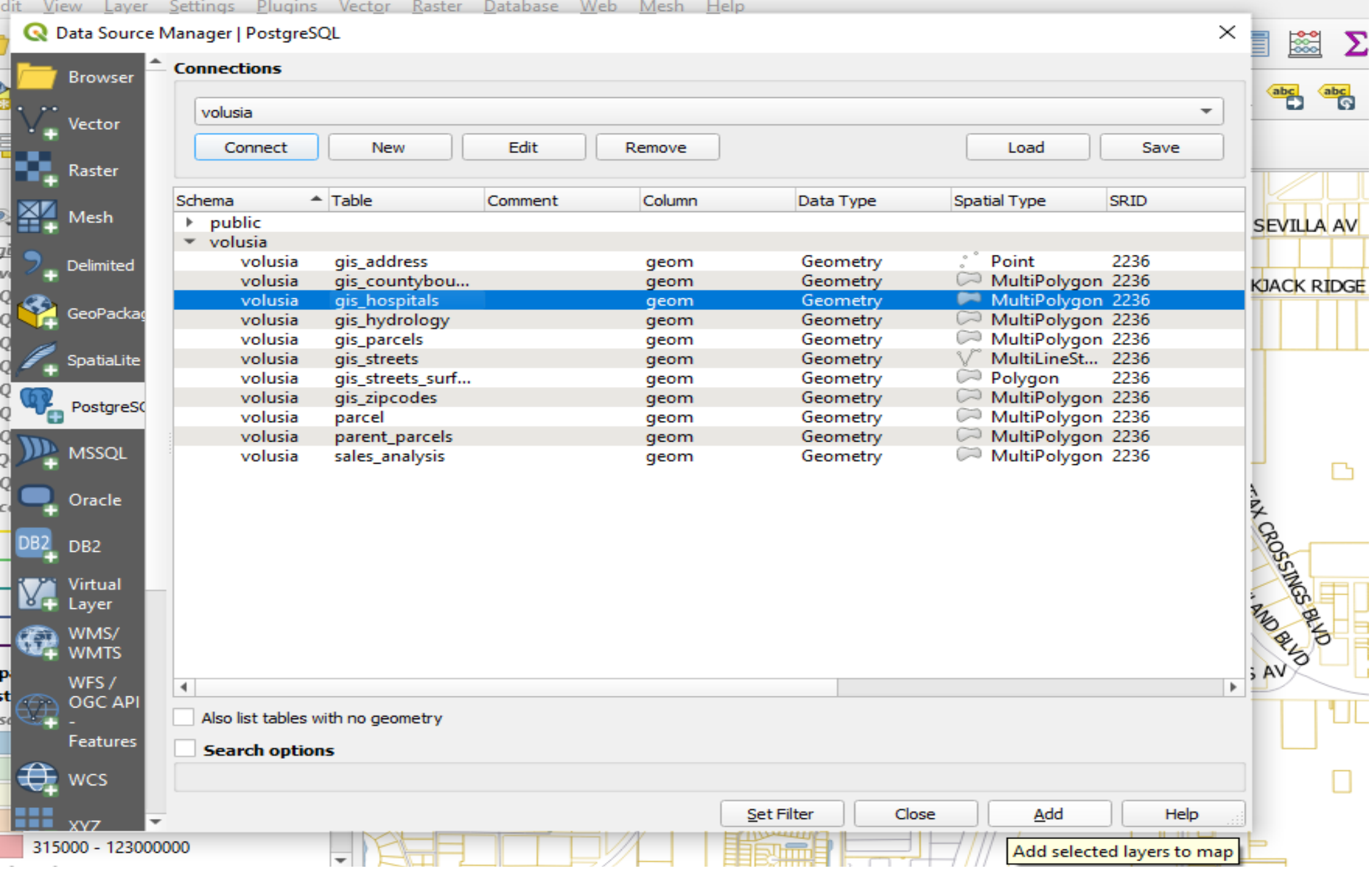
	cur text	dtcreated text	naics text	naics_desc text	eqval double precision	penval double precision	livunit text	hx_flag text	geom geometry	hdistance double precision
]	Y	29-DEC-81	[null]	[null]	0	0	[null]	Y	0106000020BC080...	3.292865740628179
]	Y	29-DEC-81	[null]	[null]	0	0	[null]	Y	0106000020BC080...	2.920381353749902
]	Y	29-DEC-81	[null]	[null]	0	0	[null]	N	0106000020BC080...	3.206450647046809

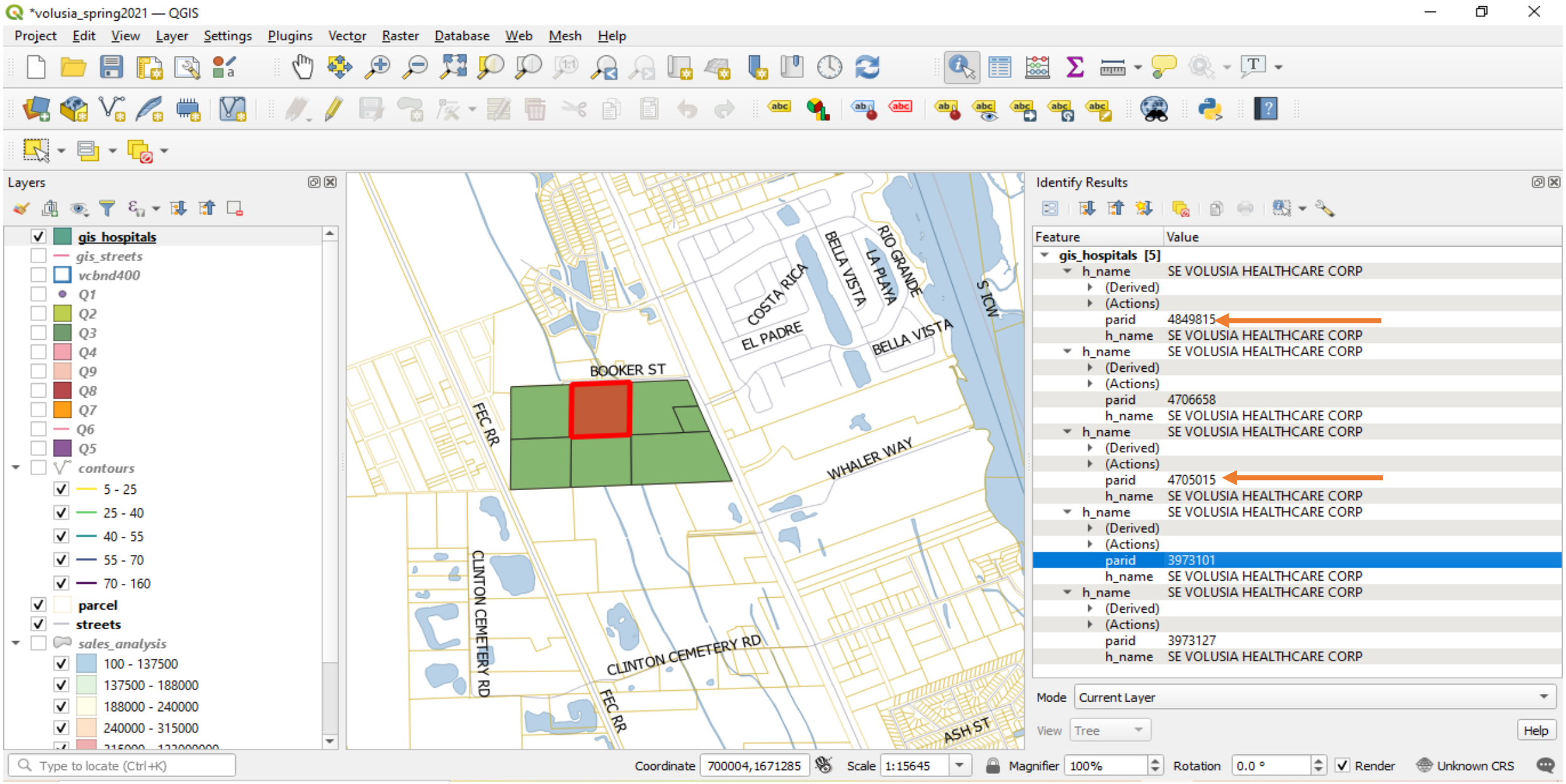
--Create Index in pgadmin to run the python script smoothly.

```
create index idx_parcel_luc on volusia.parcel (luc);
create index idx_parcel on volusia.parcel (parid);

CREATE INDEX parcel_geom_idx
  ON volusia.parcel
  USING GIST (geom);

vacuum analyze volusia.parcel;
```

Add postgis layer in QGIS3 (gis_hospital)




Data Source Manager | PostgreSQL
Browser
Vector
Raster
Mesh
Delimited
GeoPackag
SpatiaLite
PostgreSC
MSSQL
Oracle
DB2
Virtual Layer
WMS/ WMTS
WFS / OGC API - Features
WCS
XYZ
Connections
volusia
Connect
New
Edit
Remove
Load
Save
Schema
Table
Comment
Column
Data Type
Spatial Type
SRID
public
volusia
volusia gis_address geom Geometry Point 2236
volusia gis_countybou... geom Geometry MultiPolygon 2236
volusia gis_hospitals geom Geometry MultiPolygon 2236
volusia gis_hydrology geom Geometry MultiPolygon 2236
volusia gis_parcels geom Geometry MultiPolygon 2236
volusia gis_streets geom Geometry MultiLineSt... 2236
volusia gis_streets_surf... geom Geometry Polygon 2236
volusia gis_zipcodes geom Geometry MultiPolygon 2236
volusia parcel geom Geometry MultiPolygon 2236
volusia parent_parcels geom Geometry MultiPolygon 2236
volusia sales_analysis geom Geometry MultiPolygon 2236
Also list tables with no geometry
Search options
Set Filter
Close
Add
Help
Add selected layers to map
315000 - 123000000
SEVILLA AV
KJACK RIDGE
CROSSINGS BLVD
AND BLVD


*volusia_spring2021 — QGIS
Project Edit View Layer Settings Plugins Vector Raster Database Web Mesh Help
Layers
gis_hospitals
gis_streets
vcbnd400
Q1
Q2
Q3
Q4
Q9
Q8
Q7
Q6
Q5
contours
5 - 25
25 - 40
40 - 55
55 - 70
70 - 160
parcel
streets
sales_analysis
100 - 137500
137500 - 188000
188000 - 240000
240000 - 315000
BOOKER ST
FEC RR
CLINTON CEMETERY RD
CLINTON CEMETERY RD
FEC RR
WHALER WAY
COSTA RICA
EL PADRE
BELLA VISTA
LA PLAYA
RIO GRANDE
BELLA VISTA
S ICW
ASH ST
Identify Results
Feature
Value
gis_hospitals [5]
h_name SE VOLUSIA HEALTHCARE CORP
(Derived)
(Actions)
parid 4849815
h_name SE VOLUSIA HEALTHCARE CORP
h_name SE VOLUSIA HEALTHCARE CORP
(Derived)
(Actions)
parid 4706658
h_name SE VOLUSIA HEALTHCARE CORP
h_name SE VOLUSIA HEALTHCARE CORP
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parid 4705015
h_name SE VOLUSIA HEALTHCARE CORP
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(Derived)
(Actions)
parid 3973101
h_name SE VOLUSIA HEALTHCARE CORP
h_name SE VOLUSIA HEALTHCARE CORP
(Derived)
(Actions)
parid 3973127
h_name SE VOLUSIA HEALTHCARE CORP
Mode Current Layer
View Tree
Help
Type to locate (Ctrl+K)
Coordinate 700004,1671285
Scale 1:15645
Magnifier 100%
Rotation 0.0 °
Render
Unknown CRS