

# 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 screenshot shows a PostgreSQL query editor interface. The query editor has tabs for "Query Editor" and "Query History". The query being edited is:

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

Below the query editor, there is a "Data Output" tab. It shows the results of the query in a table with columns: luc, luc\_desc, and count. The results are:

	luc	luc_desc	count
64	7300	Privately Owned Hospitals	35
65	7400	Homes for the Aged	113

An orange arrow points from the "luc" column header to the value 7300 in the first row of the results.

The screenshot shows a PostgreSQL query editor interface. The query editor has tabs for "Query Editor" and "Query History". The query being edited is:

```
1 select luc, luc_desc, count(*) from volusia.parcel g
```

Below the query editor, there is a "Data Output" tab. It shows the results of the query in a table with columns: luc, luc\_desc, and count. The results are:

	luc	luc_desc	count
74	8500	Hospitals	92
75	8600	County	160

An orange arrow points from the "luc" column header to the value 8500 in the first row of the results.

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

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

Dashboard Properties SQL Statistics Dependencies Dependents volusia.parcel/... volusia.gis\_ho...

spatial/postgres@PostgreSQL 13

Query Editor Query History

```
1 select luc, luc_desc, count(*) from volusia.parcel group by luc, luc_desc order by luc::i
2
3 select * from volusia.parcel where luc in ('8500','7300');
```

Data Output Explain Messages Notifications

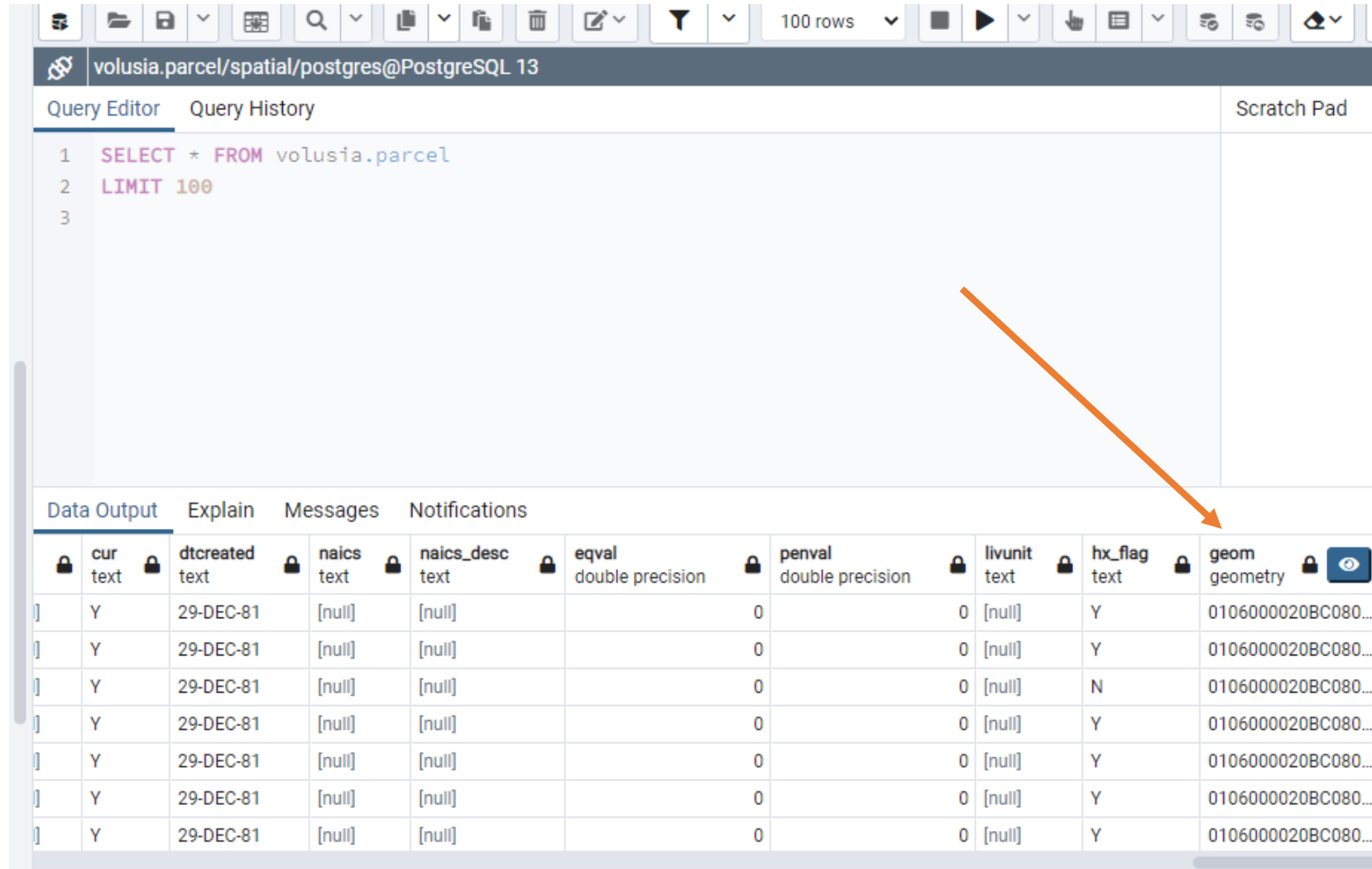
	parid double precision	taxyr double precision	rolltype text	acctype text	dorid text	alt_id text	luc text	luc_desc text
33	7328704	2020	REAL	[null]	3017281...	7028160...	7300	Privately Owned Hospitals
34	3187318	2020	REAL	[null]	3214422...	4242203...	7300	Privately Owned Hospitals
35	3365259	2020	REAL	[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

All hospitals in the county  
(privet and public)

--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_parcel p where a.parid=p.altkey;
```

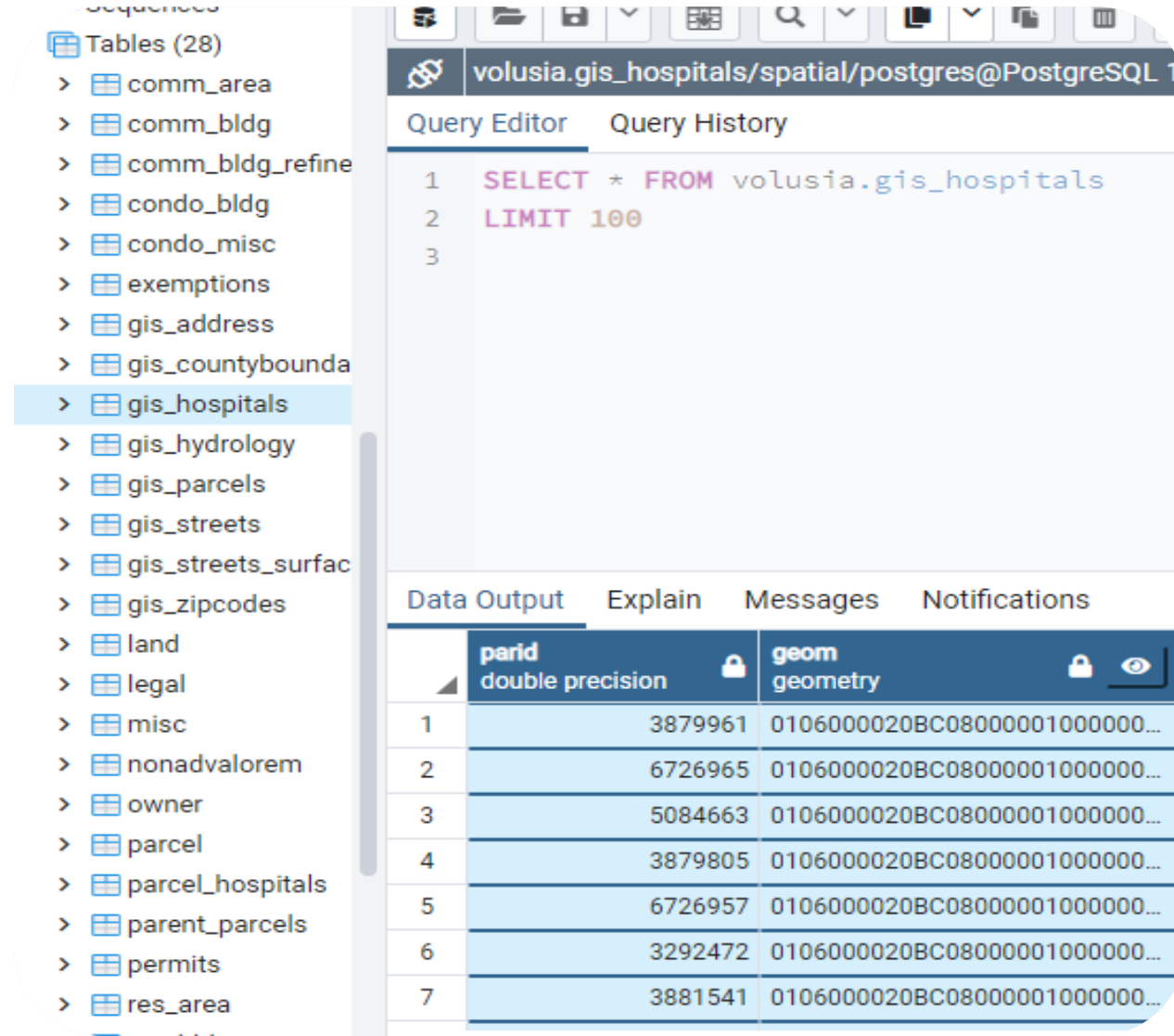


The screenshot shows a PostgreSQL Query Editor window titled 'volusia.parcel/spatial/postgres@PostgreSQL 13'. The 'Query Editor' tab is active, displaying a SQL query with three lines: 'SELECT \* FROM volusia.parcel', 'LIMIT 100', and a blank line. The 'Data Output' tab is also visible, showing a table with 11 columns and 7 rows of data. An orange arrow points from the 'geom' column header in the 'Data Output' tab to the 'geom' column in the 'Query Editor' tab.

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

--Create gis\_hospital

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



The screenshot shows a PostgreSQL GUI interface. On the left, a tree view lists tables, with 'gis\_hospitals' selected. The main area is divided into a 'Query Editor' and a 'Data Output' section. The query editor contains the following SQL:

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

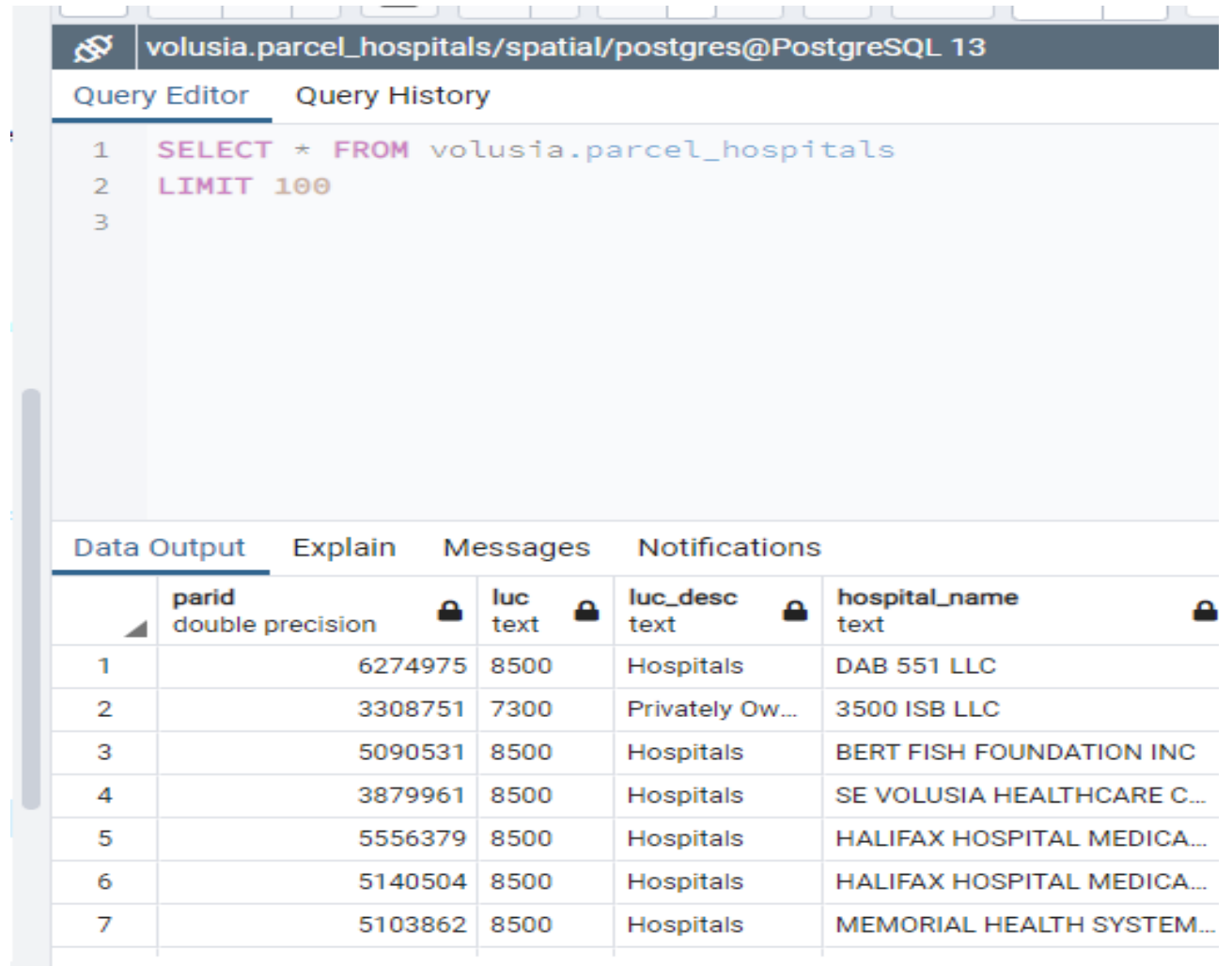
The 'Data Output' section displays a table with the following data:

	parid double precision	geom geometry
1	3879961	0106000020BC08000001000000...
2	6726965	0106000020BC08000001000000...
3	5084663	0106000020BC08000001000000...
4	3879805	0106000020BC08000001000000...
5	6726957	0106000020BC08000001000000...
6	3292472	0106000020BC08000001000000...
7	3881541	0106000020BC08000001000000...

--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');



The screenshot shows a PostgreSQL query editor window titled "volusia.parcel\_hospitals/spatial/postgres@PostgreSQL 13". The "Query Editor" tab is active, displaying a SQL query. Below the editor, the "Data Output" tab is selected, showing the results of the query in a table format. The table has four columns: "parid" (double precision), "luc" (text), "luc\_desc" (text), and "hospital\_name" (text). The results are numbered 1 through 7.

	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;
```

volusia.gis\_hospitals/spatial/postgres@PostgreSQL 13

Query Editor   Query History

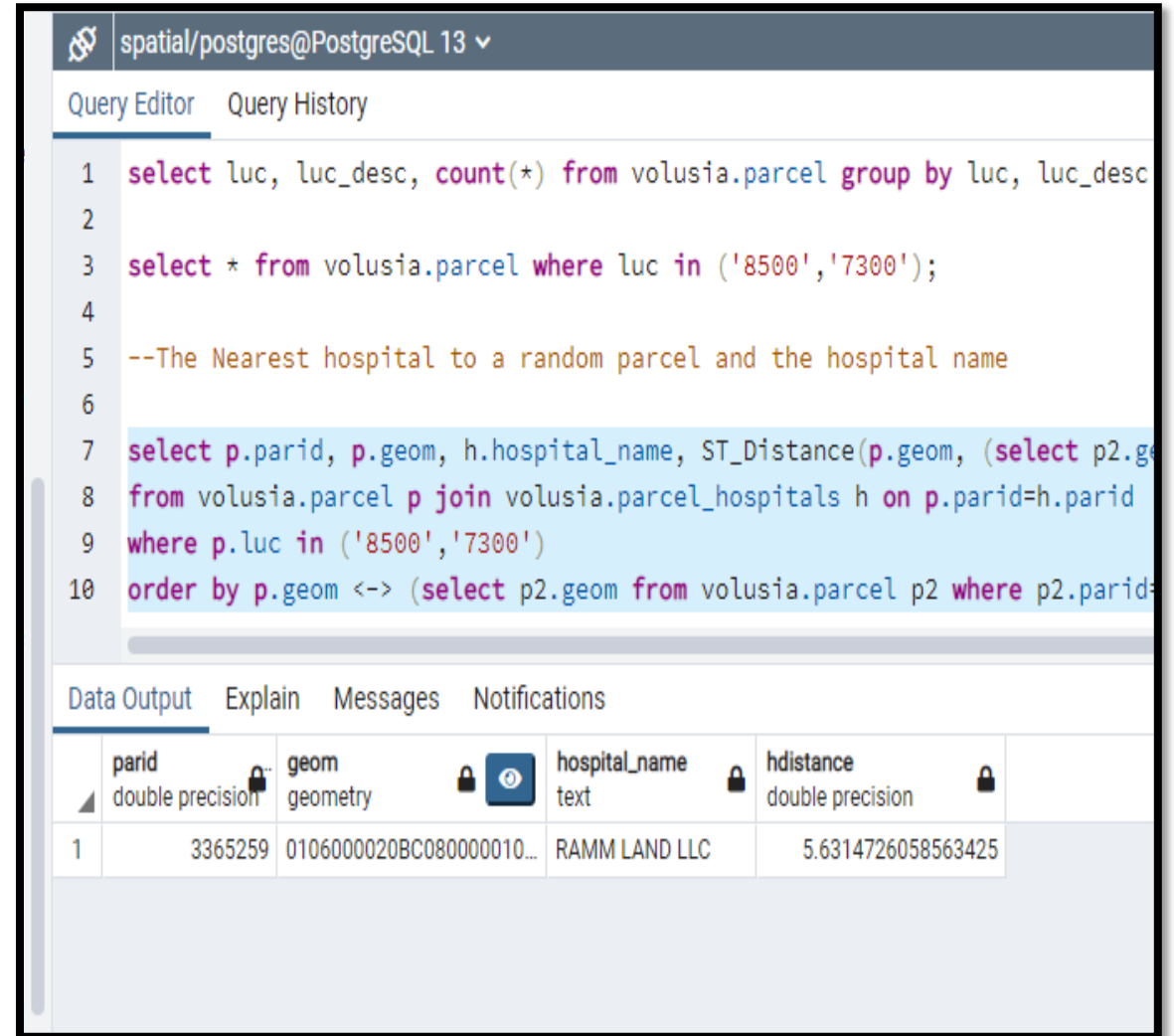
```
1  SELECT * FROM volusia.gis_hospitals  
2  LIMIT 100  
3
```

Data Output   Explain   Messages   Notifications

	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;
```



The screenshot shows a PostgreSQL Query Editor interface. The top bar indicates the connection is 'spatial/postgres@PostgreSQL 13'. The 'Query Editor' tab is active, displaying a SQL query. The query is as follows:

```
1 select luc, luc_desc, count(*) from volusia.parcel group by luc, luc_desc  
2  
3 select * from volusia.parcel where luc in ('8500','7300');  
4  
5 --The Nearest hospital to a random parcel and the hospital name  
6  
7 select p.parid, p.geom, h.hospital_name, ST_Distance(p.geom, (select p2.g  
8 from volusia.parcel p join volusia.parcel_hospitals h on p.parid=h.parid  
9 where p.luc in ('8500','7300')  
10 order by p.geom <-> (select p2.geom from volusia.parcel p2 where p2.parid=
```

Below the query editor, the 'Data Output' tab is active, showing the results of the query. The results are displayed in a table with the following columns: parid, geom, hospital\_name, and hdistance.

parid	geom	hospital_name	hdistance
3365259	0106000020BC08000010...	RAMM LAND LLC	5.6314726058563425



--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		equal 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	

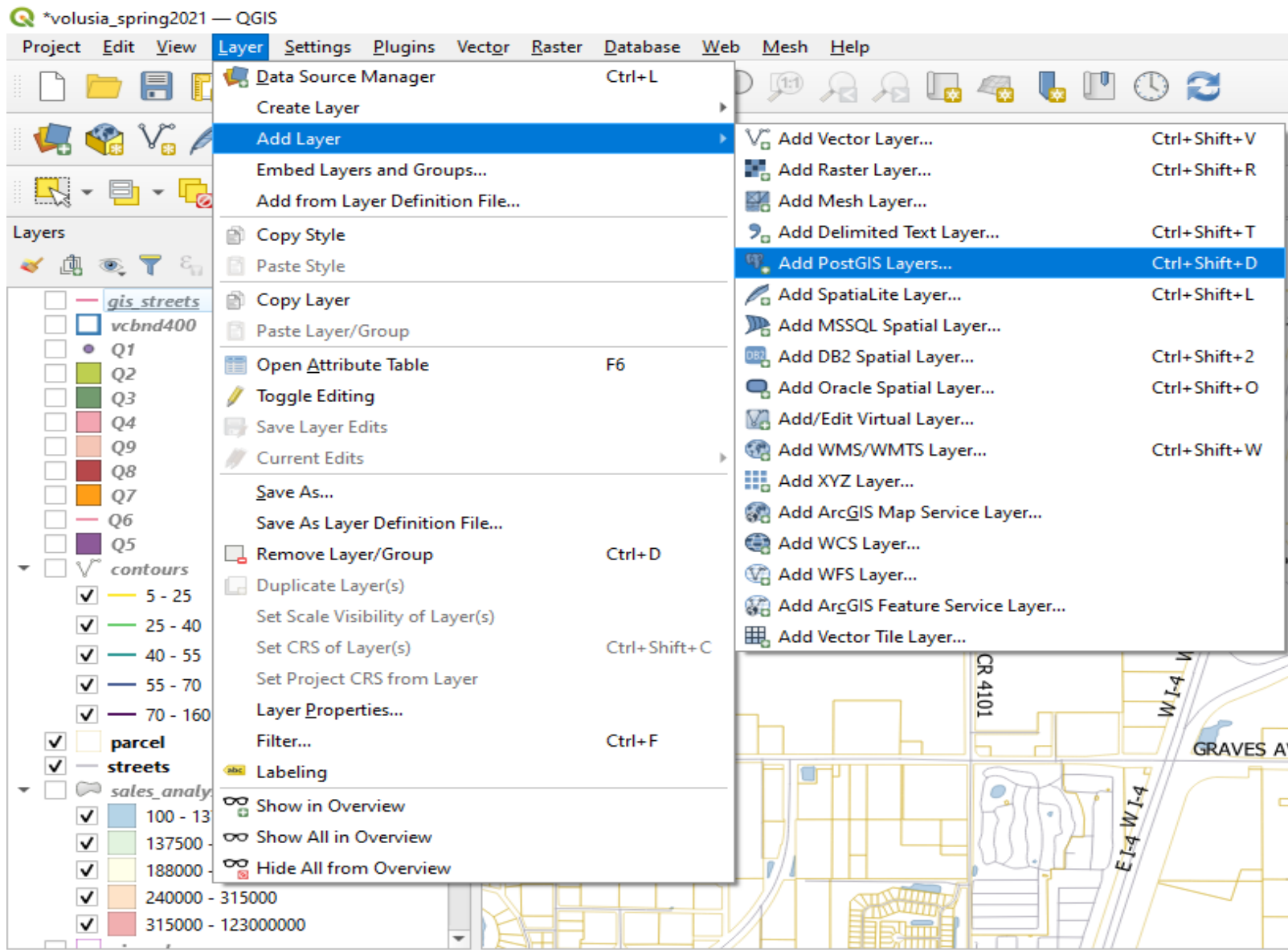
--Create Index in pgadmin to run the python script smoothly.

```
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
- GeoPackage
- SpatialLite
- PostgreSQL
- 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_parcel		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_parcel		geom	Geometry	MultiPolygon	2236
volusia	sales_analysis		geom	Geometry	MultiPolygon	2236

☐ Also list tables with no geometry

☐ Search options

Set Filter

Close

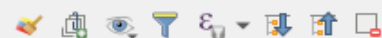
Add

Help

315000 - 123000000

Add selected layers to map



 *gis\_streets*

☐ ☒ *vcbnd400*

☐ ☒ Q1


☐ ☒ Q2

Q3

☐ ☒ Q4

Q9

☐ ☒ Q8  
☐ ☒ Q7

☐  Q7  
☐  Q6

Q6  
05

contours

☒ — 5 - 25

☒ — 25 - 40

<input type="checkbox"/>	25	40
<input checked="" type="checkbox"/>	40	55

40 - 55

☒ — 55 - 70

☒ — 70 - 16

☒ parcel☒ — streets

sales\_analysis

<input checked="" type="checkbox"/>	100 - 137500
<input type="checkbox"/>	137500 - 1000000

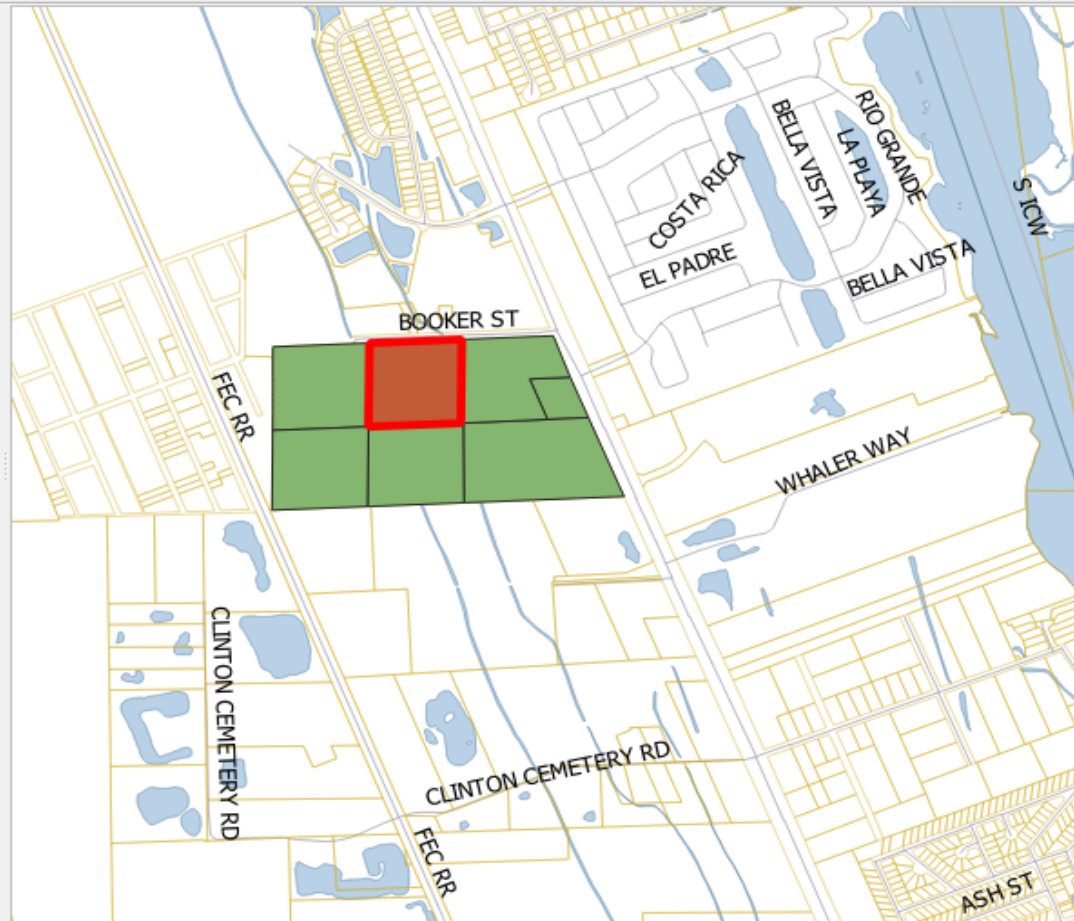
<input checked="" type="checkbox"/>	<input type="checkbox"/>	137500 - 188000
<input type="checkbox"/>	<input type="checkbox"/>	137500 - 188000

<input checked="" type="checkbox"/>	<input type="checkbox"/>	188000 - 240000
<input type="checkbox"/>	<input type="checkbox"/>	

<input checked="" type="checkbox"/>	240000 - 315000
<input type="checkbox"/>	

Type to locate (Ctrl+U)

🔍 Type to locate (Ctrl+K)




Coordinate	700004,1671285
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Scale 1:15645

 Magnifier 100%

Rotation 0.0 °

☒ Render Unknown CRS

### 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
(Derived)	
(Actions)	
parid	4705015
h_name	SE VOLUSIA HEALTHCARE CORP
h_name	SE VOLUSIA HEALTHCARE CORP
(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