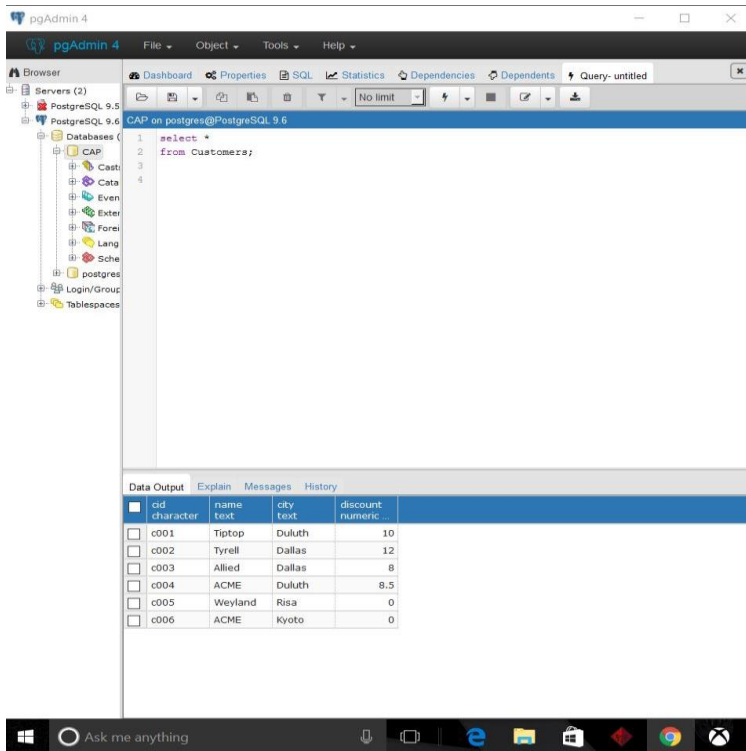


## 1. pgAdmin Screenshots

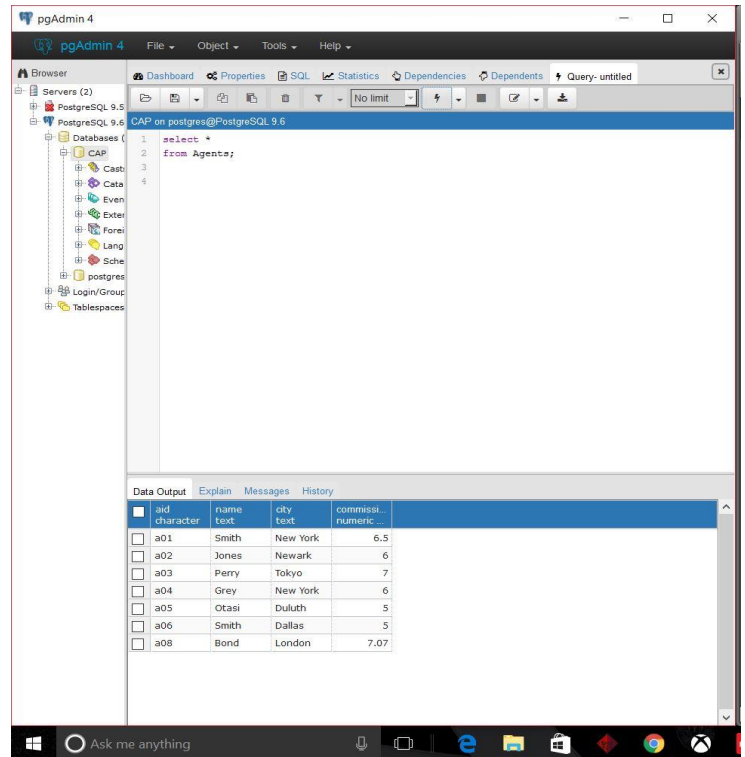
### Customers



pgAdmin 4 interface showing the CAP database schema. The query executed is `select * from Customers;`. The results are displayed in the Data Output pane.

cid	character	name	city	discount
c001	Tiptop	Duluth	10	
c002	Tyrell	Dallas	12	
c003	Allied	Dallas	8	
c004	ACME	Duluth	8.5	
c005	Weyland	Risa	0	
c006	ACME	Kyoto	0	

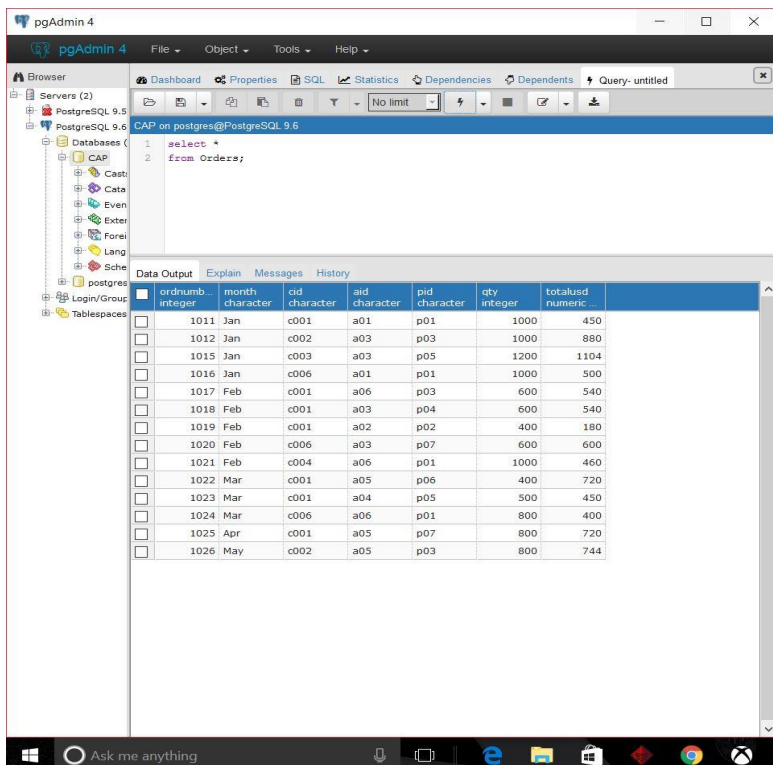
### Agents



The screenshot shows the pgAdmin 4 application window. The left sidebar displays the 'Servers' tree with 'PostgreSQL 9.6' selected. Under 'Databases', the 'CAP' database is expanded. The main pane shows the 'CAP on postgres@PostgreSQL 9.6' connection. The 'SQL' tab is active, displaying a query: `select * from Agents;`. The 'Data Output' pane at the bottom shows the results of the query, which are 8 rows of data from the 'Agents' table. The table has columns: aid, character, name, city, and commissi... (commissioned).

aid	character	name	city	commissi...
a01	Smith	New York	6.5	
a02	Jones	Newark	6	
a03	Perry	Tokyo	7	
a04	Grey	New York	6	
a05	Otasi	Duluth	5	
a06	Smith	Dallas	5	
a08	Bond	London	7.07	

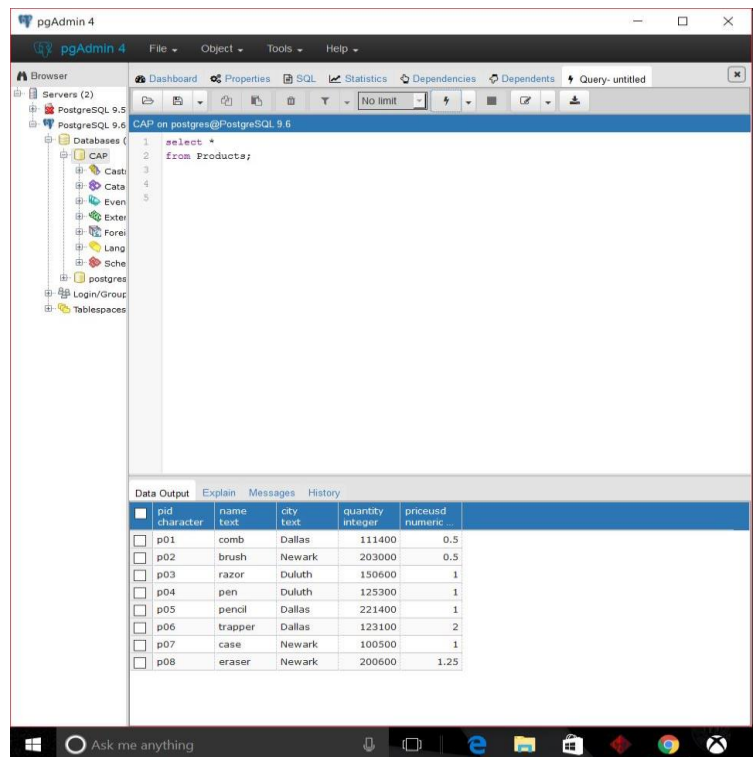
### Orders



pgAdmin 4 interface showing the CAP database schema. The query executed is `select * from Orders;`. The results are displayed in the Data Output pane.

ordrnumb...	month	character	cid	aid	pid	qty	totalued
1011	Jan	c001	a01	p01	1000	450	
1012	Jan	c002	a03	p03	1000	880	
1015	Jan	c003	a03	p05	1200	1104	
1016	Jan	c006	a01	p01	1000	300	
1017	Feb	c001	a06	p03	600	540	
1018	Feb	c001	a03	p04	600	540	
1019	Feb	c001	a02	p02	400	180	
1020	Feb	c006	a03	p07	600	600	
1021	Feb	c004	a06	p01	1000	460	
1022	Mar	c001	a05	p06	400	720	
1023	Mar	c001	a04	p05	500	450	
1024	Mar	c006	a06	p01	800	400	
1025	Apr	c001	a05	p07	800	720	
1026	May	c002	a05	p03	800	744	

### Products



pgAdmin 4 interface showing the CAP database schema. The query executed is `select * from Products;`. The results are displayed in the Data Output pane.

pid	character	name	city	quantity	priceusd
p01	comb	Dallas	111400	0.5	
p02	brush	Newark	203000	0.5	
p03	razor	Duluth	150600	1	
p04	pen	Duluth	125300	1	
p05	pencil	Dallas	221400	1	
p06	trapper	Dallas	123100	2	
p07	case	Newark	100500	1	
p08	eraser	Newark	200600	1.25	

2. A primary key is what uniquely defines an entity occurrence. For example, my Marist ID is what uniquely defines me in the college's records. A super key is a combination of columns that uniquely defines any row within a relational database management table. A candidate key is similar to a super key, yet is reduced to the minimum number of columns to be able to identify each row.
3. A data type is an entity that places a specific type of data and places it in the objective, such as an integer data, character data, date data, time data, strings data, boolean data, etc. These types of data are used to determine how each field is represented. For example if someone tries to insert an integer into an alphabet column, it would not allow. Data types are crucial for maintain a clean database.

1	Field	Type	Null
2	player number	int	No
3	character	varchar	No
4	currency (gold coins)	int	No
5	kart size (cc)	Mario Kart database	No

4. A) A database conforms to the 1NF if it contains only atomic values and there are no repeating groups. An atomic value is a value that cannot be divided. It must contain data that has no structure.  
 B) The 2NF rule "Access rows by content only" disallows pointers to rows, such as second row over or fifth row from the bottom. Most relational products break this rule by allowing users to get to rows ID.  
 C) The 3NF rule "Rows must be unique" explains that two ordered lists of elements cannot be identical. A relation is an unordered set of tuples. But some tables where this is a good thing, such as temperature readings.