

Mark Rajovic
DBM- Lab2
January 27, 2017
Professor Labouseur

The image displays two screenshots of the pgAdmin 4 web interface, showing the process of querying a PostgreSQL database.

Top Screenshot:

- Browser:** Shows the database structure. The 'public' schema is selected, containing tables like 'Agents', 'Customers', 'Employees', etc.
- Query Editor:** The SQL query is:

```
1 select *  
2 from Agents ;
```
- Data Output:** The results of the query are displayed in a table with 5 columns: 'aid character', 'name text', 'city text', 'commis...', and 'numeric ...'. The data is as follows:

aid character	name text	city text	commis...	numeric ...
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	

Bottom Screenshot:

- Query Editor:** The SQL query is:

```
1 select *  
2 from Customers ;
```
- Data Output:** The results of the query are displayed in a table with 5 columns: 'cid character', 'name text', 'city text', 'discount numeric ...', and 'numeric ...'. The data is as follows:

cid character	name text	city text	discount numeric ...	numeric ...
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	

The top screenshot shows a pgAdmin 4 window with a query executed on the 'Orders' table. The query is:

```
1 select *
2 from Orders ;
```

The result set shows 16 rows of data with columns: ordnumber, month, cid, aid, pid, qty, and totalusd. The data is as follows:

ordnumber	month	cid	aid	pid	qty	totalusd
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	500
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

The bottom screenshot shows a pgAdmin 4 window with a query executed on the 'Products' table. The query is:

```
1 select *
2 from Products ;
```

The result set shows 8 rows of data with columns: pid, name, city, quantity, and priceusd. The data is as follows:

pid	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

Question 2:

A Super Key is defined as a column or set of columns that ensures that every row will be unique. A Candidate Key is a super key with the minimal number of columns, and finally, a Primary Key is the chosen candidate key, therefore by definition, each table can only have one primary key.

Question 3:

The table below contains different data types pertaining to soccer players. NN denotes non-nullable, meaning these areas cannot be null and must contain a value.

Soccer Players							
Fst Nm	Lst Nm	Height	Weight	Goals	Assists	Eligible	GPA
String, NN	String, NN	Int, NN	Int, NN	Int	Int	Boolean, NN	Float

Question 4:

-First normal form rule- this rule explains that at an intersection of a row and a column, there cannot be multi-values. The example used in class of a super hero and his powers highlights this perfectly. It explains that if a super hero has more than one power, they cannot be listed in the same cell. To fix this problem, there must be extra columns to fit all of the powers listed or their needs to be a separate powers table to avoid intersections with multi-values.

-What not where rule- this rule states that rows must be accessed by content only, and never by location. This is important because if data is added to the table, it could potential shift where items are. Therefore searching for something by location is unreliable because it could change whereas, content will not.

-All rows must be unique- this rule states that in each table, no two rows can have the same value. This is important because it would become impossible to correctly call or modify theses duplicate rows by themselves.