

1.

Query - CAP2 on postgres@localhost:5432 *

File Edit Query Favourites Macros View Help

SQL Editor Graphical Query Builder

Previous queries

```
select *  
from customers;  
  
select *  
from agents;
```

Scratch pad

Output pane

Data Output Explain Messages History

	aid character(3)	name text	city text	percent real
1	a01	Smith	New York	6
2	a02	Jones	Newark	6
3	a03	Brown	Tokyo	7
4	a04	Gray	New York	6
5	a05	Orasi	Duluth	5
6	a06	Smith	Dallas	5
7	a08	Bond	London	7

OK. DOS Ln 6, Col 1, Ch 54 7 rows. 19 msec 8:07 PM 2/3/2016

Query - CAP2 on postgres@localhost:5432 *

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SQL Editor Graphical Query Builder

Previous queries

```
select *  
from customers;
```

Scratch pad

Output pane

Data Output Explain Messages History

	cid character(4)	name text	city text	discount numeric(5,2)
1	c001	Tiptop	Duluth	10.00
2	c002	Basics	Dallas	12.00
3	c003	Allied	Dallas	8.00
4	c004	ACME	Duluth	8.00
5	c005	Weyland-Yutani	Acheron	0.00
6	c006	ACME	Kyoto	0.00

OK. DOS Ln 3, Col 1, Ch 28 6 rows. 15 msec 8:08 PM 2/3/2016

The first screenshot shows a query editor with the following SQL code:

```

from customers;

select *
from agents;

select *
from products;

select *
from orders;

```

The output pane displays a table with 14 rows and 8 columns:

	ordno integer	mon character(3)	cid character(4)	aid character(3)	pid character(3)	qty integer	dollars numeric(12,2)
1	1011	jan	c001	a01	p01	1000	450.00
2	1013	jan	c002	a03	p03	1000	880.00
3	1015	jan	c003	a03	p05	1200	1104.00
4	1016	jan	c006	a01	p01	1000	500.00
5	1017	feb	c001	a06	p03	600	540.00
6	1018	feb	c001	a03	p04	600	540.00
7	1019	feb	c001	a02	p02	400	180.00
8	1020	feb	c006	a03	p07	600	600.00
9	1021	feb	c004	a06	p01	1000	460.00
10	1022	mar	c001	a05	p06	400	720.00
11	1023	mar	c001	a04	p05	500	450.00
12	1024	mar	c006	a06	p01	800	400.00
13	1025	apr	c001	a05	p07	800	720.00
14	1026	may	c002	a05	p03	800	740.00

The second screenshot shows a query editor with the following SQL code:

```

select *
from customers;

select *
from agents;

select *
from products;

```

The output pane displays a table with 8 rows and 5 columns:

	pid character(3)	name text	city text	quantity integer	priceusd numeric(10,2)
1	p01	comb	Dallas	111400	0.50
2	p02	brush	Newark	203000	0.50
3	p03	razor	Duluth	150600	1.00
4	p04	pen	Duluth	125300	1.00
5	p05	pencil	Dallas	221400	1.00
6	p06	folder	Dallas	123100	2.00
7	p07	case	Newark	100500	1.00
8	p08	clip	Newark	200600	1.25

2. A superkey is a set of attributes in which the values of the attributes identify only one entity in the set of entities. A candidate key is a minimal version of a superkey. This means that if an attribute is removed, the set of attributes that is left is no longer a superkey. A primary key is a candidate key that is designated by the database designer. All primary keys are candidate keys and every candidate key is also a superkey, but not the other way around.

3. Data types are how data is classified when it is inputted. An example of how data can be entered into the table is a calendar. The different fields in the data table can be years, months, days, and even hour if it is a daily planner-type calendar. The years' column could have data entered as integers while the months' column would have strings of the twelve months. The days' and hours' columns would be in integers. The 29th of February could be null for the non-leap years.

4. The first normal form rule sets the basic rules for an organized database. It says that the data items must be defined. You have to look at the data that is going to be stored and organize it into columns that define what kind of data is in each column. For example a column called "Orders" would contain the data for all orders placed by customers. This rule also ensures that there is no repeating data. For example, if a customer has multiple orders, it makes sure that instead of repeating the entirety of the customer's information, the database gives the customer an ID and stores the orders under the ID number. Finally the rule of this rule is to create a primary key for each table that you create.

The access rules by content rule talks about how there is no order to the rows. The rows can be accessed by content rather than saying the number of the row. The rows have no IDs and must be called upon by the content of the row.

The all rows must be unique rule covers the idea that the no two rows can be completely identical. This is because if there were two identical rows, one could not specify which of the two rows they want to access since they are the same.