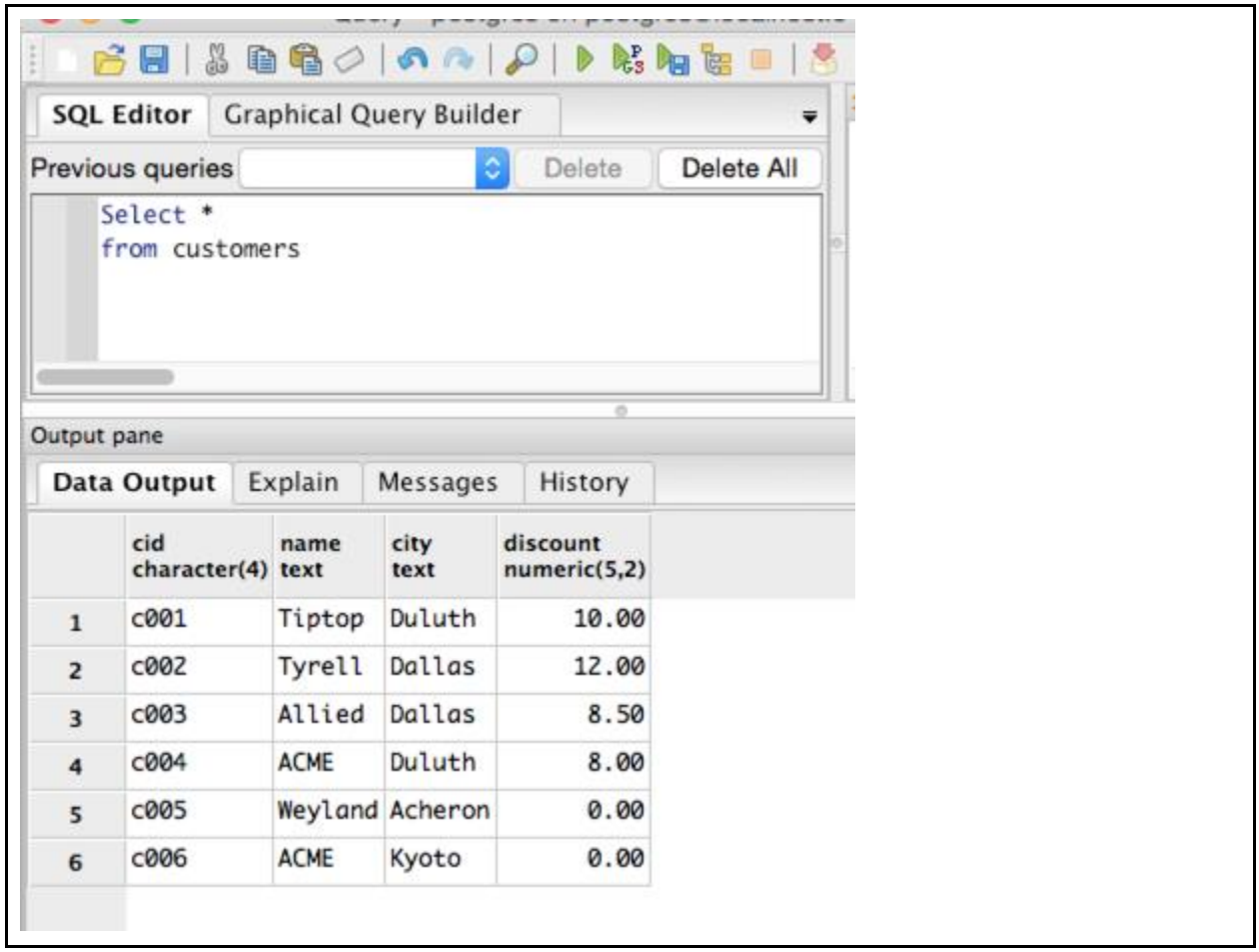
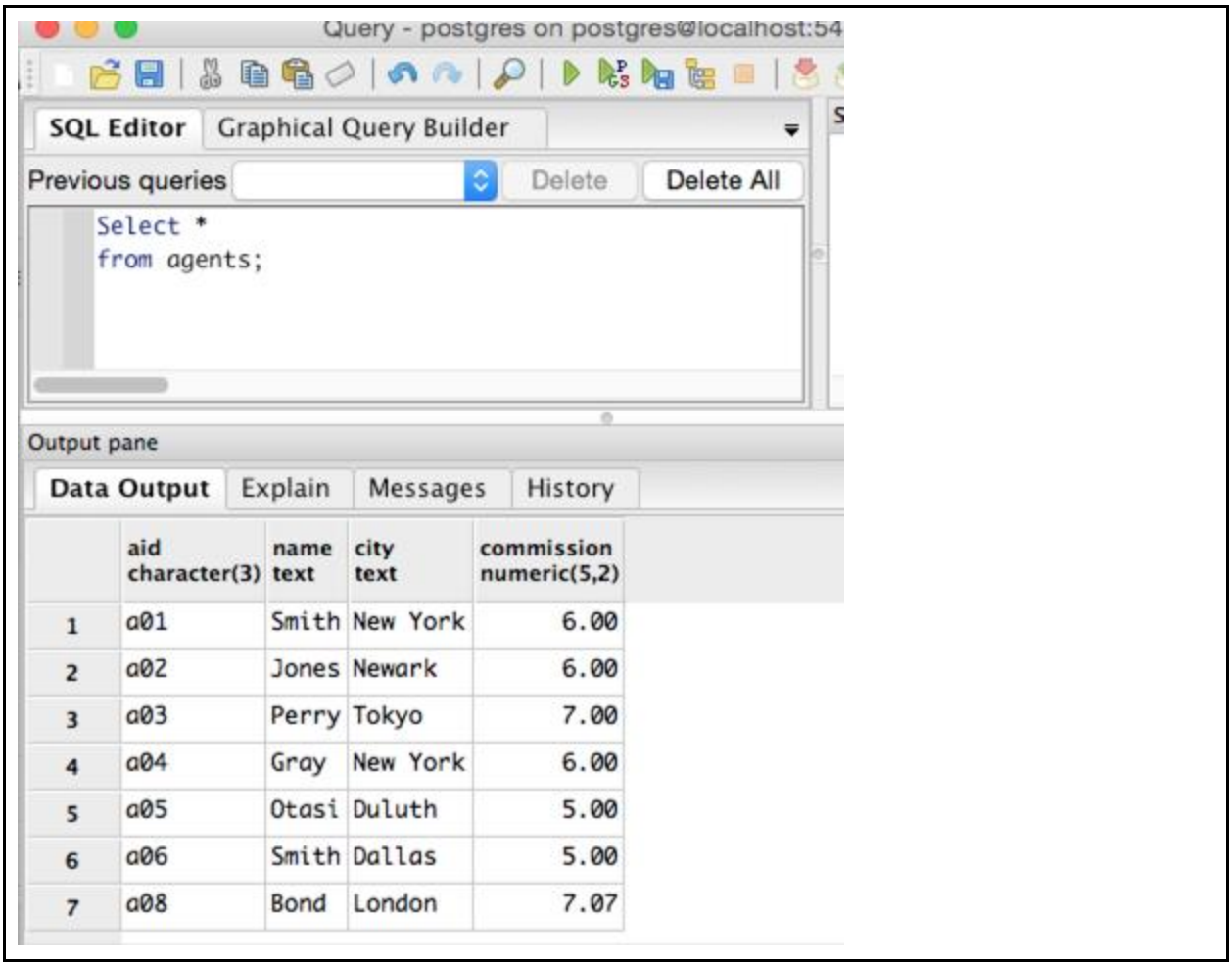
Tenkorang Darko

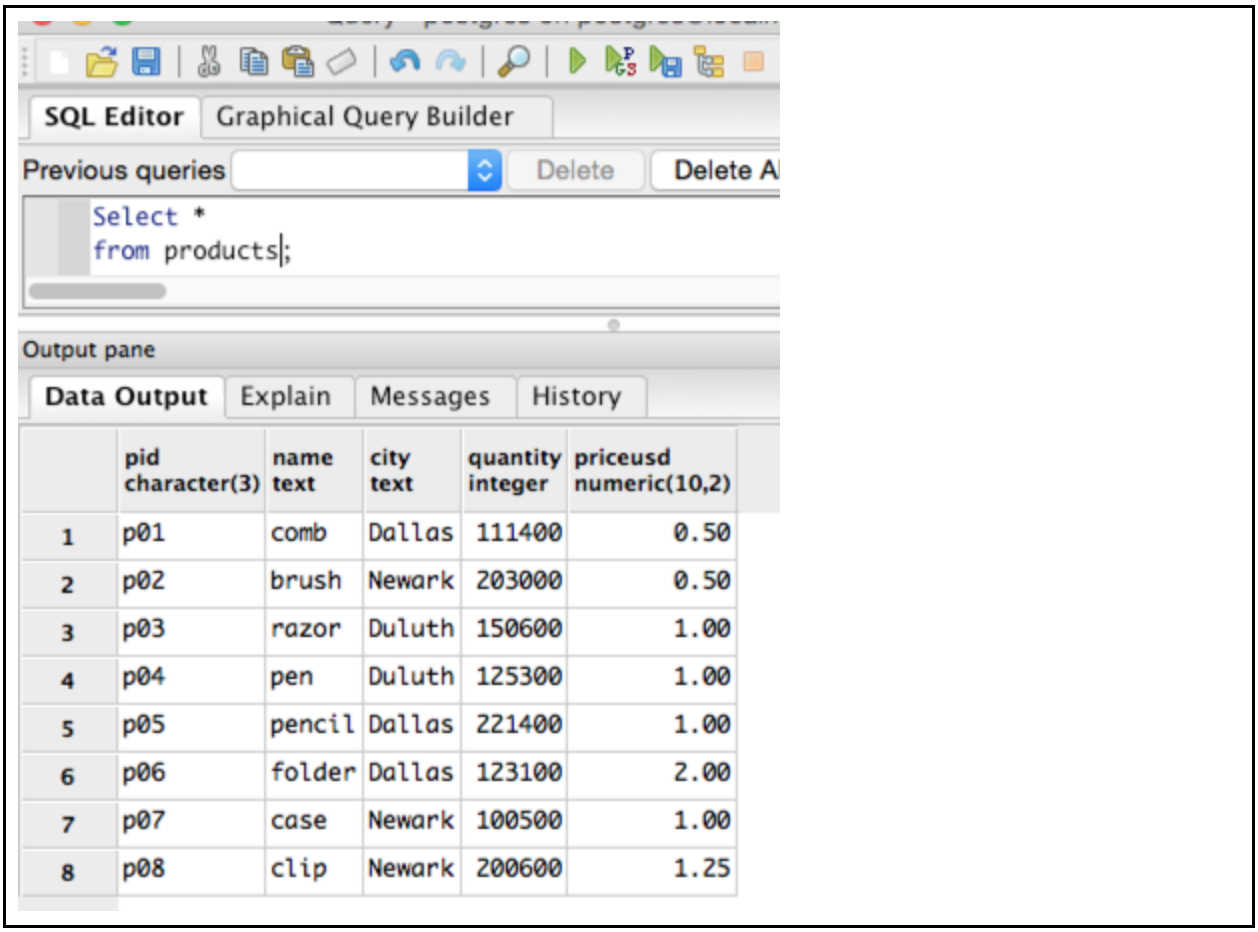
UPDATED VERSION

1) Execute the following queries (one at a time) from pgAdmin's SQL tool

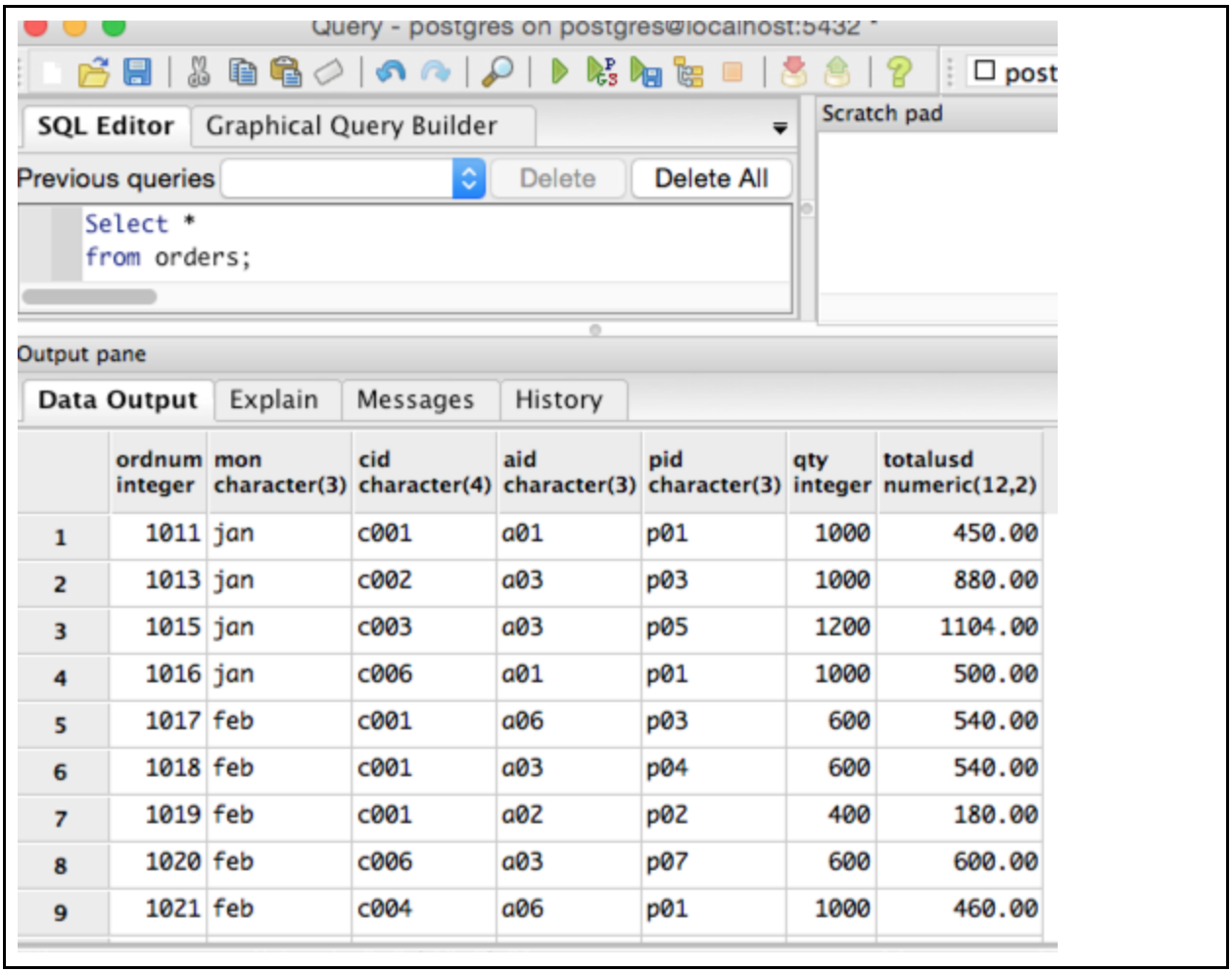


	cid character(4)	name text	city text	discount numeric(5,2)
1	c001	Tiptop	Duluth	10.00
2	c002	Tyrell	Dallas	12.00
3	c003	Allied	Dallas	8.50
4	c004	ACME	Duluth	8.00
5	c005	Weyland	Acheron	0.00
6	c006	ACME	Kyoto	0.00


Query - postgres on postgres@localhost:54
SQL Editor
Graphical Query Builder
Previous queries
Delete
Delete All
Select *
from agents;
Output pane
Data Output
Explain
Messages
History
aid character(3)
name text
city text
commission numeric(5,2)
1 a01 Smith New York 6.00
2 a02 Jones Newark 6.00
3 a03 Perry Tokyo 7.00
4 a04 Gray New York 6.00
5 a05 Otasi Duluth 5.00
6 a06 Smith Dallas 5.00
7 a08 Bond London 7.07



	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



	ordnum integer	mon character(3)	cid character(4)	aid character(3)	pid character(3)	qty integer	totalusd 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

2) Explain the distinctions among the terms primary key, candidate key, and superkey.

a) A primary key is simply a candidate key that has been chosen to be the main key that uniquely identies a record in a database. A primary key is mandatory for every table because it is used to establish relationships with other tables. A Candidate key is a baby version of a super key. A candidate key is a single field that uniquely identifies each record in a table. A candidate key must contain unique values, and can not be null. In addition, a table can have many candidate keys. Although a candidate key is a subset of a super key, a superkey is not a candidate key. A superkey is a combination of columns that allow us to uniquely identify each row in a table.

3) Write a short essay on data types. Select a topic for which you might create a table. Name the table and list its fields (columns). For each field, give its data type and whether or not it is nullable

a) If i was creating a to-do list script to help me manage my life and things i had to do, a database will be required. I'll create a database with the name "ToDo" and within the database, there will be a table called "items." In the items table, there will be 4 columns. The first column will be called "id" and have a data type of an integer, be auto incremented, and won't have a null. This is to give each information in the data it's own unique id. The second column will be called "description" with a data type of text and can

have a null value. The third column will basically be a field called 'done' with a datatype of a tinyint, which will be treated as a boolean. I will use this to figure out whether each to do list is completed or uncompleted. It will also hold a null value. Lastly, my last field, called "created" will have a data type of datetime and will accept nulls. This will store the date and time of when each to do list was created.

4) Explain the following relational “rules” with examples and reasons why they are important.

a) The “first normal form” rule
    i) The first formal rules states that every column in a table must be unique, separate tables should be created for each set of related data, and each table must be identified with a unique column such as a primary key. In addition to this no rows may be duplicated, no columns may be duplicated, rows and column can not contain a null value, and no rows and columns can contain a multivalued fields.
b) The “access rows by content only” rule
    i) Most databases make it hard to access rows by reference, so using sql this is the easiest method.
c) The “all rows must be unique” rule
    i) Rows must be unique, no duplicate primary keys to guarantee row accessibility and to preserve entity integrity.