James Holden
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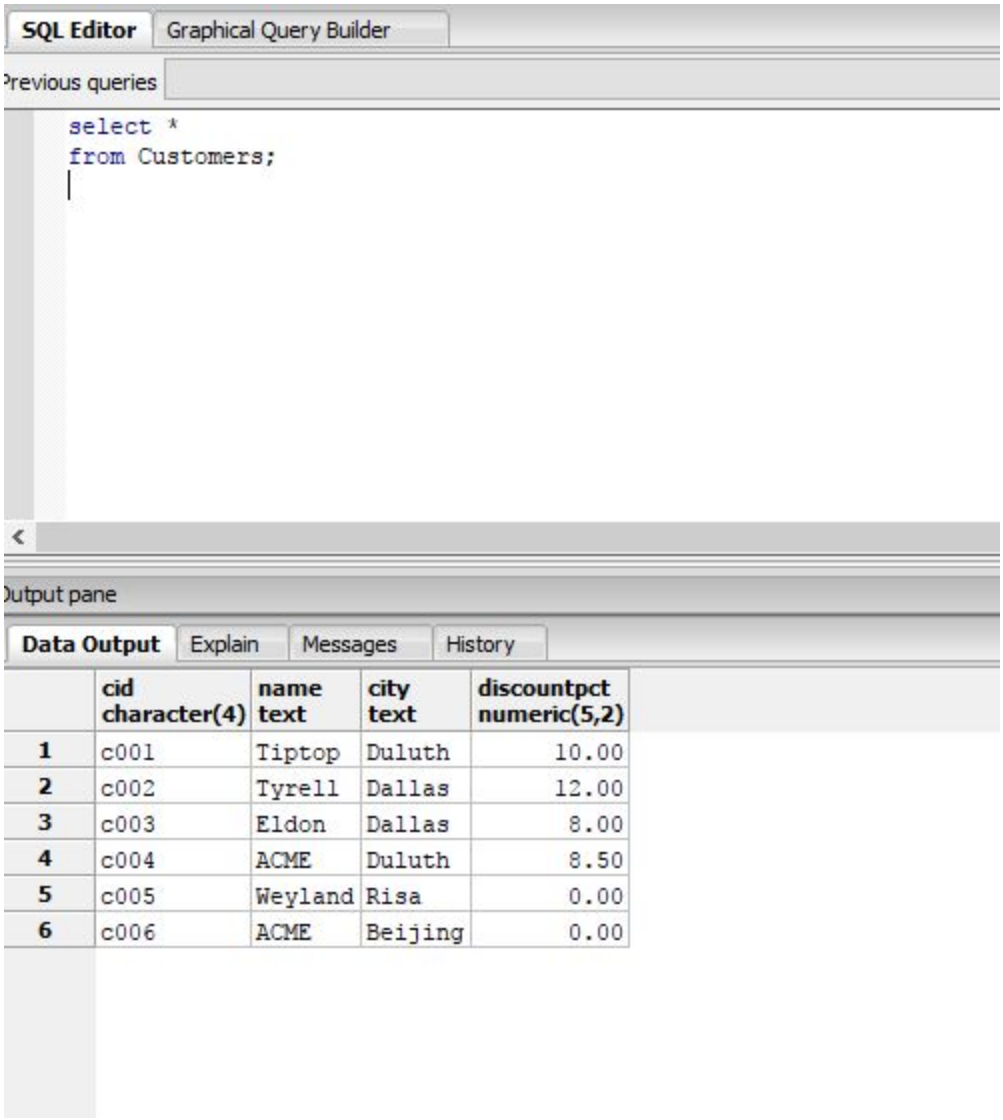
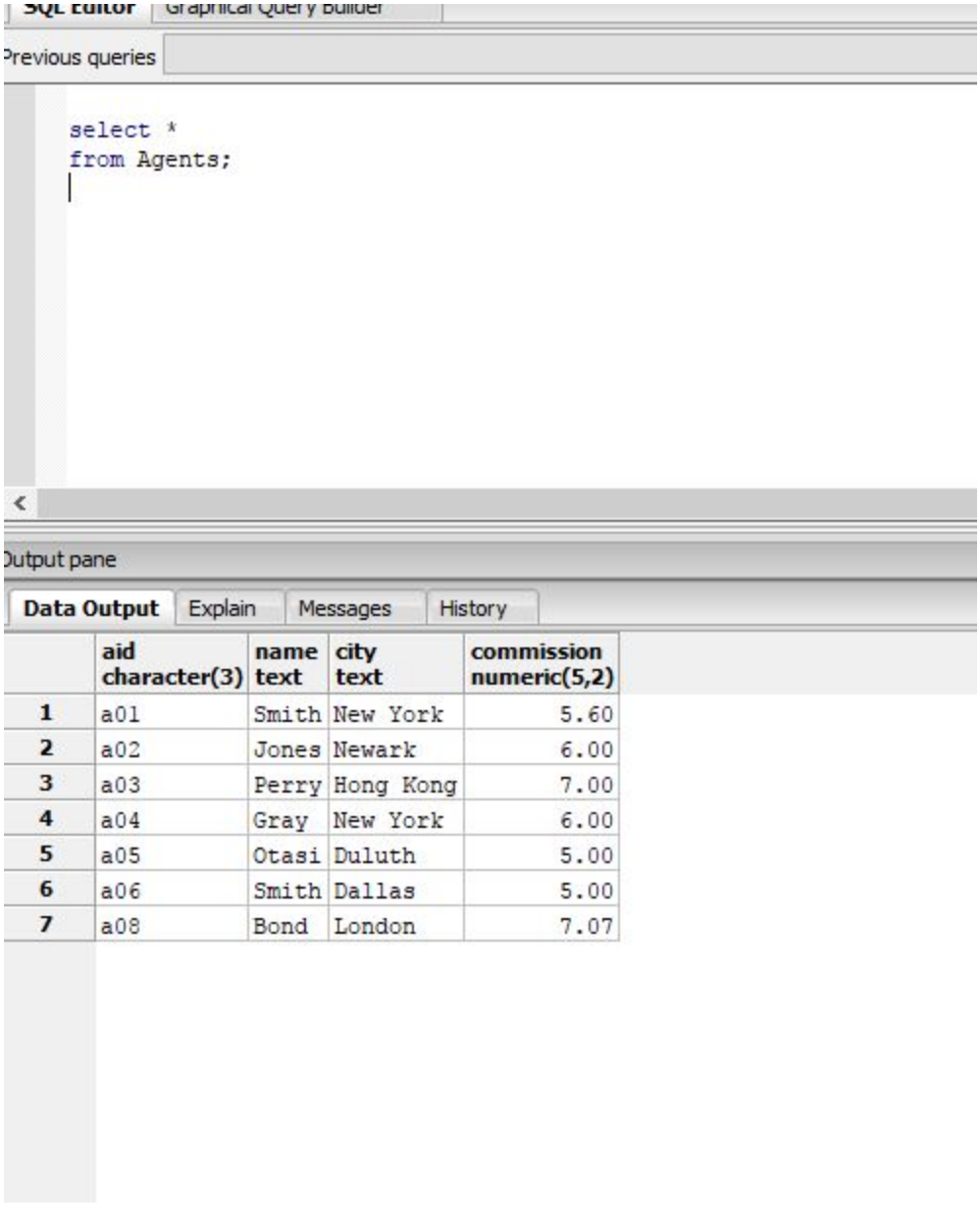
Database Systems

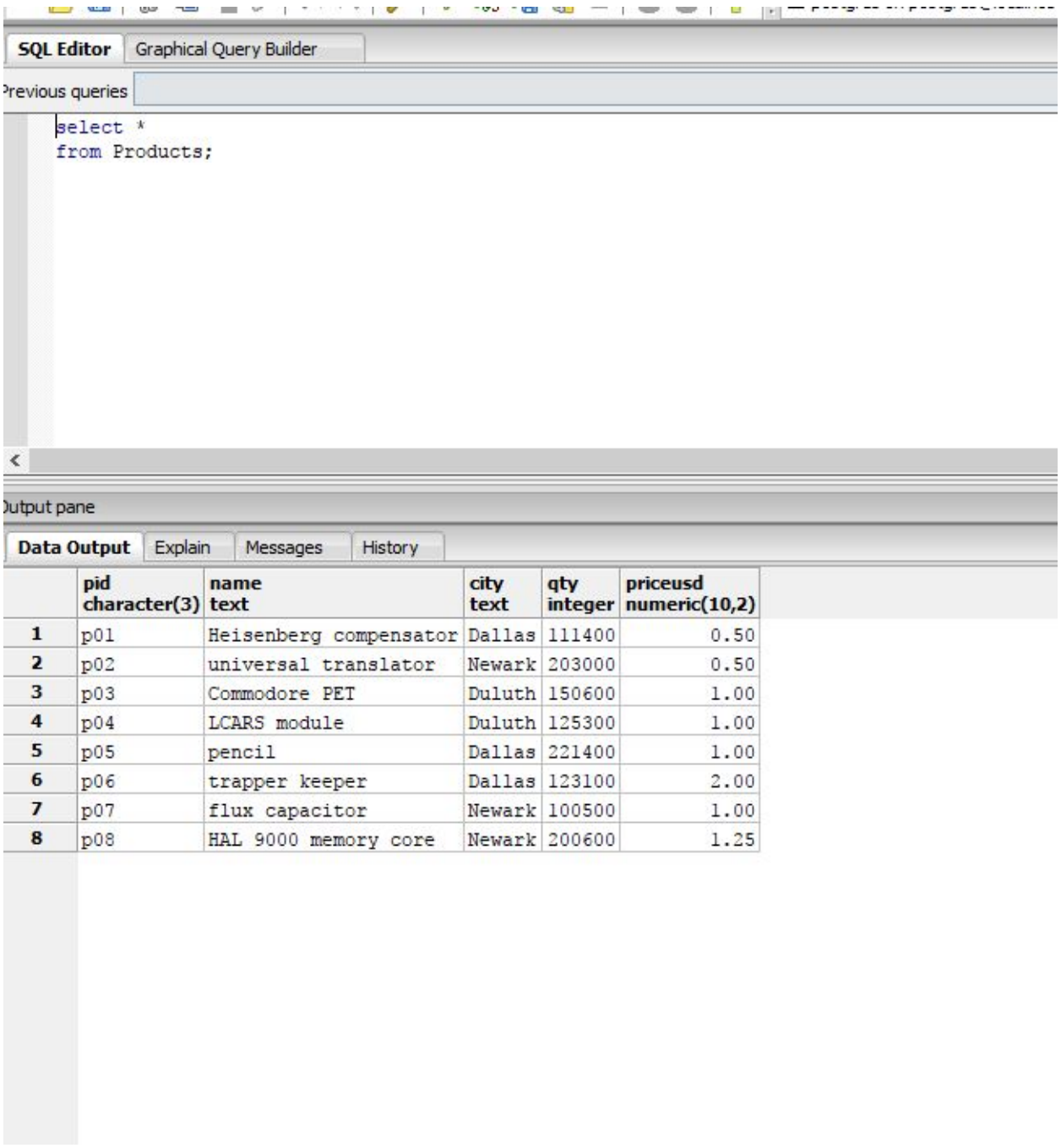
1.



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



	aid character(3)	name text	city text	commission numeric(5,2)
1	a01	Smith	New York	5.60
2	a02	Jones	Newark	6.00
3	a03	Perry	Hong Kong	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	qty integer	priceusd numeric(10,2)
1	p01	Heisenberg compensator	Dallas	111400	0.50
2	p02	universal translator	Newark	203000	0.50
3	p03	Commodore PET	Duluth	150600	1.00
4	p04	LCARS module	Duluth	125300	1.00
5	p05	pencil	Dallas	221400	1.00
6	p06	trapper keeper	Dallas	123100	2.00
7	p07	flux capacitor	Newark	100500	1.00
8	p08	HAL 9000 memory core	Newark	200600	1.25

SQL Editor | Graphical Query Builder

Previous queries

```
select *
from Orders;
```

Output pane

Data Output | Explain | Messages | History

	ordno integer	month character(3)	cid character(4)	aid character(3)	pid character(3)	quantity integer	totalusd numeric(12,2)
1	1011	Jan	c001	a01	p01	1100	495.00
2	1012	Jan	c002	a03	p03	1200	1056.00
3	1015	Jan	c003	a03	p05	1000	920.00
4	1016	Jan	c006	a01	p01	1000	500.00
5	1017	Feb	c001	a06	p03	500	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	457.50
10	1022	Mar	c001	a05	p06	450	810.00
11	1023	Mar	c001	a04	p05	500	450.00
12	1024	Mar	c006	a06	p01	880	400.00
13	1025	Apr	c001	a05	p07	888	799.20
14	1026	May	c002	a05	p03	808	711.04

2. Primary key, Candidate key, super key -

A primary key uniquely identifies a column or set of columns in a table. There can only ever be one primary key in a table. A candidate key is any column or set of columns that are “candidate” to become primary key. There can be many candidate keys but all must qualify to become primary key. The super key is the combination of fields by which the column is identified by. The data can be changed for a super key.

3. A data type is a declaration used to define what kind of data a column will be able to contain. The data type selected for each column determines how the SQL will store and interact with the data. There are 3 main data types, which are text, number and date.

The example I am going to use is an Ebay User's account. The account would likely have some kind of id to identify by. This would be an int data type which is a number type. This field would not be nullable. The account would also have a Username and password field which would be a text datatype. This field is not nullable. The account may also have a date created field that would be a datetime() datatype. This is also not not nullable. The account could have a last login data type, which would be nullable. This field could be null if the account was just created and has not been logged into yet.

4.

A . First normal form is known as 1NF. To be first normal form the data must be stored in a table and one or more columns can be used to uniquely identify each row(this is the primary key). There can also be no use of sub columns.

An example of this is if there is one table called customers. Customers contains a new column for each order that a customer places. Customer 1 ordered 3 times, so the orderid is different in the columns order1, order2, and order3. This can be changed into 1NF by creating a new table orders. This is a far more efficient and useful way of operating tables.

B . The second rule "access rows by content only" means there is no order to rows and there is no order to columns. When selecting rows, it will only be done through selecting information in the rows such as orderid and customerid.

C . The all rows must be unique rule means there can not be duplicate rows. To have two rows with all the same exact information stored wouldn't make any sense and would be a waste of space, as there is nothing that distinguishes between the rows. Certain fields of different rows can be duplicates, but the two whole rows can not be duplicates.