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Database Management

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Lab 2

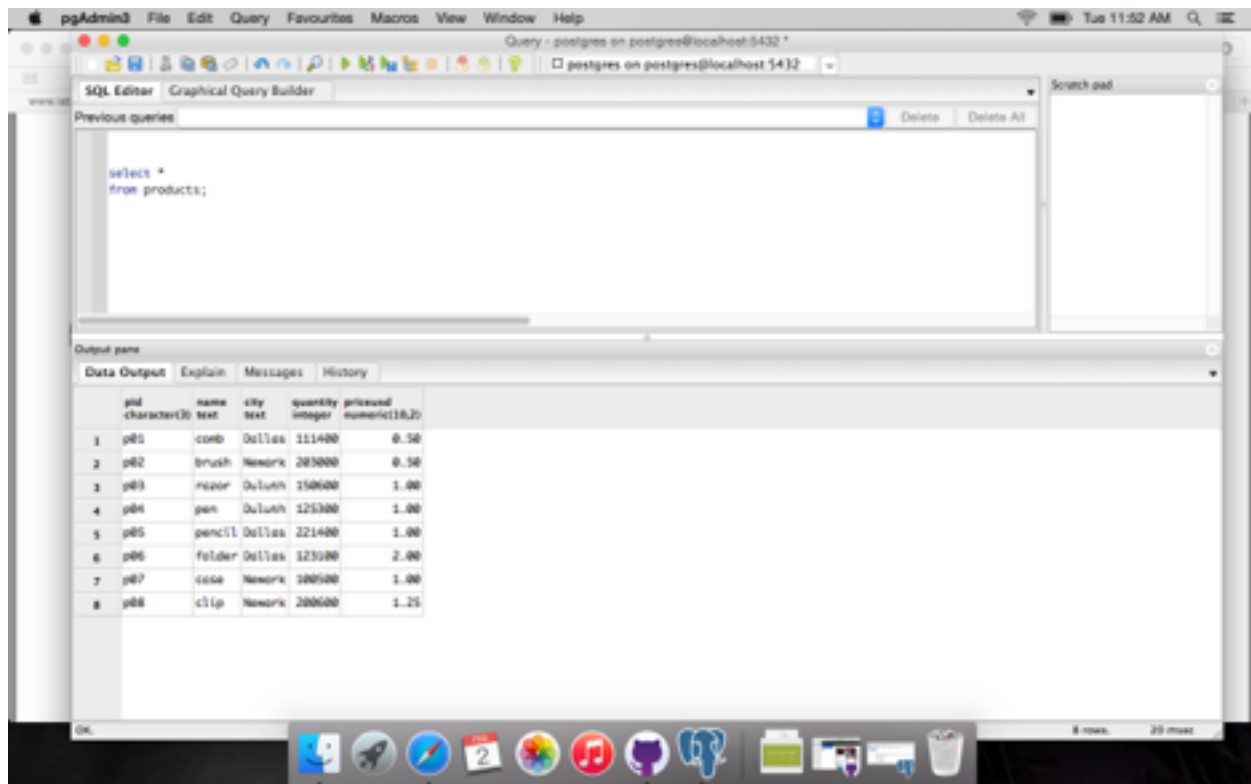
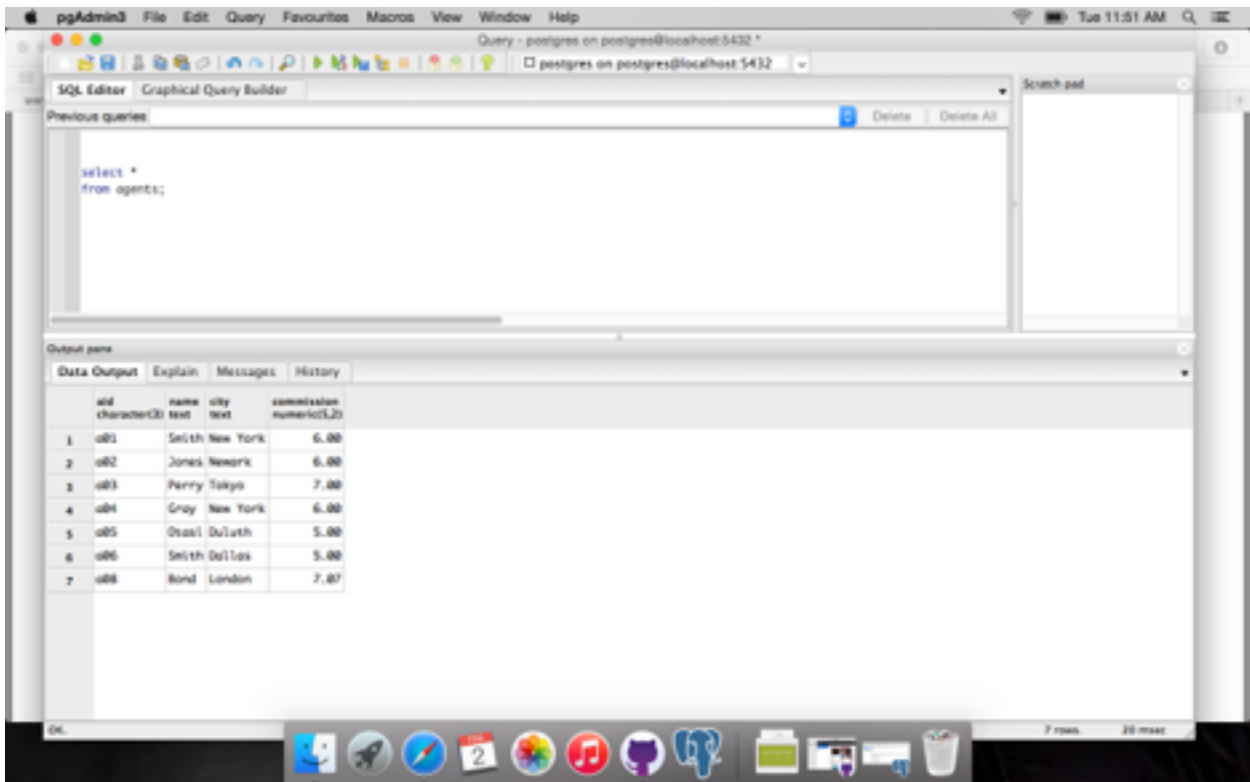
CAP3 database Screen shots:

The first screenshot shows a Safari browser window with the PostgreSQL SQL Editor. The query editor contains three INSERT statements for the 'Orders' table. The output pane displays a table with 11 rows of order data.

ordnum	mon	cid	aid	pid	qty	totalUSD
1	1801 Jan	c000	a01	p01	1000	450.00
2	1803 Jan	c002	a03	p03	1000	800.00
3	1805 Jan	c003	a03	p05	1200	1100.00
4	1806 Jan	c006	a01	p01	1000	500.00
5	1807 Feb	c000	a06	p03	600	540.00
6	1808 Feb	c000	a03	p04	600	540.00
7	1809 Feb	c000	a02	p02	400	180.00
8	1809 Feb	c006	a03	p07	600	600.00
9	1821 Feb	c004	a06	p01	1000	400.00
10	1822 Mar	c000	a05	p06	400	720.00
11	1823 Mar	c000	a04	p05	500	450.00

The second screenshot shows the same PostgreSQL SQL Editor with a query to select all data from the 'customers' table. The output pane displays a table with 6 rows of customer data.

cid	name	city	discount
c000	Tiptop	Duluth	10.00
c002	Tyre11	Dallas	12.00
c003	Allied	Dallas	8.50
c004	ACME	Duluth	8.00
c005	Wayland	Acheron	9.00
c006	ACME	Kyoto	9.00



The screenshot shows the pgAdmin3 interface. The SQL Editor contains the query: `select * from orders;`. The Output pane displays the results of this query in a table format.

	ordnum integer	mon character(3)	cid character(4)	aid character(3)	pid character(3)	qty integer	totalfund numeric(12,2)
1	1811	jan	c001	a01	p01	1000	450.00
2	1813	jan	c002	a03	p03	1000	800.00
3	1815	jan	c003	a03	p05	1200	1184.00
4	1816	jan	c006	a01	p01	1000	500.00
5	1817	feb	c001	a06	p03	600	540.00
6	1818	feb	c001	a03	p04	600	540.00
7	1819	feb	c001	a02	p02	400	180.00
8	1820	feb	c006	a03	p07	600	600.00
9	1821	feb	c004	a06	p01	1000	460.00
10	1822	mar	c001	a05	p06	400	720.00
11	1823	mar	c001	a04	p05	500	450.00
12	1824	mar	c006	a06	p01	800	480.00
13	1825	apr	c001	a05	p07	800	720.00
14	1826	may	c002	a05	p03	800	760.00

A primary key is the candidate key that one chooses to make the primary key if there is more than one candidate key. A candidate key is a minimal super key with the fewest number of columns and that are still uniquely identifiable in every row. A super-key is any column or set of columns that uniquely identifies every row in the table.

Data types are different types of data such as text, byte, integers (handlers of integers depending on how big the integer such as long and double), hyperlinks, date and time, and so on. Data types are any type of data, and most of this data could potentially turn into information that is usable and meaningful in the real world. One example of a table with data types would be a table that is titled Patronuses. The fields or columns within the table would include person's

name, person's Patronus, and the amount of time a person can produce the Patronus. The person's name is a text data type, it is a primary key, and it is not nullable because there is always a value for a primary key and for this piece of data. The person's Patronus is also a text data type, it is a foreign key, and it is potentially nullable if a person is a muggle and can not make a patronus. The amount of time a person can produce the patronus is an integer data type, it is a foreign key, and it is potentially nullable if a person is a muggle and can not make a patronus and therefor can not have an amount of time that they can produce the patronus.

The three relational rules are laid down by Codd and are stated as follows. The first relational rule is "the first normal form" rule. It states that the intersect of all rows and columns are atomic and must have structure. For example, names must be under the name column, locations under the location column, and so on. The second relational rule, the "access rows by content only" rule, states that one can only ask by what when it comes to data, not where. This means that for example a person can access a row of data by what the data is, not stating where the data is. The data of greg can be access by his name, not the fact that his data is in column three. The third relational rule is the "all rows must be unique" rule. This rule states that duplicate rows are not allowed and data may occur only once. For example one person is not allowed to have two rows, that person can only have one row and all the data for that person must be placed there.