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Alan's Database Class  
CMPT 308  
2/2/16

## LAB 2

1.

The screenshot shows the pgAdmin3 interface with a query window titled "Query - CAP3 on postgres@localhost:5432". The SQL Editor contains the following query:

```
Select *  
FROM Products  
--ED ACHZIGER CAP3 DB
```

The Output pane displays the results of the query in a table format:

	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

The status bar at the bottom indicates "OK", "Unix", "Ln 2, Col 14, Ch 23", "8 rows", and "18 msec".

The screenshot shows the pgAdmin3 interface with a query window titled "Query - CAP3 on postgres@localhost:5432". The SQL Editor contains the following query:

```
Select *  
FROM Orders  
--ED ACHZIGER CAP3 DB
```

The Output pane displays the results of the query in a table format:

	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

The status bar at the bottom indicates "OK", "Unix", "Ln 2, Col 12, Ch 21", "14 rows", and "18 msec".

pgAdmin3 File Edit Query Favourites Macros View Window Help

Query - CAP3 on postgres@localhost:5432 \*

SQL Editor Graphical Query Builder

Previous queries

Select \*

FROM customers

--ED ACHZIGER CAP3 DB

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	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

OK.

Unix Ln 2, Col 15, Ch 24 6 rows. 12 msec

Macintosh HD

dublingaelqb12

Football Games

Career16

PostgreSQL 9.5.0-1

Agents

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Chrome File Edit View History Bookmarks People Window Help

Query - CAP3 on postgres@localhost:5432 \*

SQL Editor Graphical Query Builder

Previous queries

Select \*

FROM agents

--ED ACHZIGER CAP3 DB

Scratch pad

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

OK.

Unix Ln 3, Col 3, Ch 24 7 rows. 18 msec

Macintosh HD

dublingaelqb12

Football Games

Career16

PostgreSQL 9.5.0-1

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2. When talking about relational database, keys allow use to relate databases to reach other. The first term, superkey, is defined as a field or set of fields that can uniquely identify all of rows in a table. The superkey can be a single key or also a composite key, which is a key of combined columns. The next term is candidate key, which is very similar to a superkey in terms that it identifies all rows in the table; it just does it by the fewest number of columns possible. The last term, primary key, is defined as the candidate key in a table that you deem most important and will use to relate to other tables in the database.

3.

If I had to great a table, I would name it "Best Baseball Hitters of All Time" and use it you see what player was the most efficient baseball hitter in the history of the game. Some of the columns that I would have in the table would be: playerID, name, yearsplayed, batavg, OnBasepct, HR, singles, doubles, triples, strikeouts, and batTitle. For this table I could use a wide range of data types, like text or strings, integers, doubles, and varchar. For the playerID column, I would use a varchar data type and this one would serve as my primary key. For the columns yearsplayed, HR, singles, doubles, triples and strikeouts, I would probably use an integer data type since I would only want whole numbers in these columns. For the columns batavg and OnBasepct, I would use a double data type that would allow for decimals. The name column I would most certainly use a string data type. Lastly, for the batTitle column, I would use an interger most likely yet this one would allow for a nullable return in case the player never won a batting title in their career.

4. When using relational databases there are 3 rules that must be followed. The first rule, "first normal rule" is concerning that all the information should be atomic. This means that at the intersection of every row and column there is atomic data and not more than one data at each intersection. Atomic data is important because if data cannot be uniquely called then there would be no need for a database. The second rule, "access rows by content only" is the rule that protects against a row that is null. An example of this is that we can only access the rows by calling the data that is

associated in that row. If nothing is in the row, or null, it would be impossible for us to call the row because there is no relation to it. Finally, the last rule, "all rows must be unique" helps protect against data duplication. As we learned early in the database course, we want to at all times eliminate data inconsistencies, and if multiple rows are identical to each other, it could provide then some data redundancy and providing data inconsistencies.