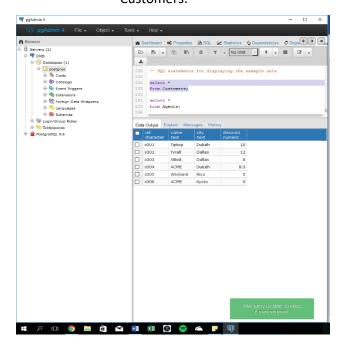
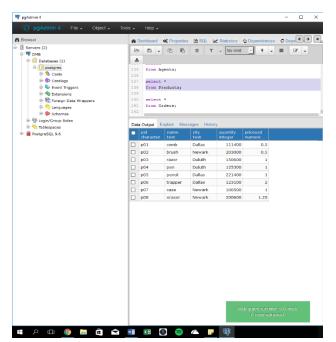
Cory Lang Professor Labouseur Database Management January 26, 2016

Lab 2- CAPdatabase

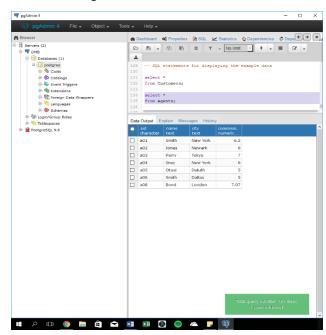
1. Customers:



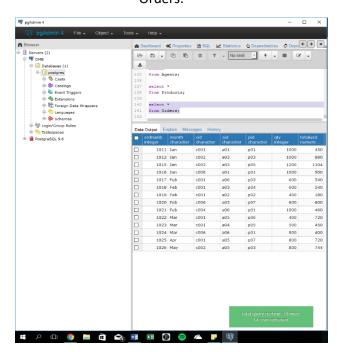
## Products:



## Agents:



## Orders:



2.

- a. Primary Key- a primary key is the chosen candidate key. There can only be one primary key in each table, and it is used as a special column to uniquely identify a row.
- b. Candidate Key- a candidate key is one or many sets of columns that uniquely identifies data. There may be more than one candidate key, but it must be the minimal number of columns to uniquely identify everything possible.
- c. Super Key- a super key is a columns or columns that ensures every row will be unique. The super keys are reduced to the minimal amount to form the candidate key.
- 3. A data type is a particular kind of data item. It can range from numeric types to monetary types to Boolean types. It allows the software to identify the information given and present it in a way that the system understands. For example, if we were to put together a small database for members of a club, we would create a table that contained different types of information about each member. Each column would be a different field and have a different data type based on what type of information would be inputted. We would obviously need a "first name" column and a "last name" column. The two fields would have the data type "text". Another column would be date of birth. This could be done using the data type "date". We would also need an "age" column and a "student ID" column. These would use the data types "smallint" and "numeric". Null values cannot be inserted into these columns.

4.

- a. First Normal Form Rule- The first normal form rule states that an intersection of a row and column cannot have its own structure, and it must return data in its atomic form. This means that the data returned must be as basic and simple as possible. There cannot have multiple answers for an intersection. For example, first and last name would need to be broken into two different column, First Name and Last name. However, something like date of birth would be find because there is a data type for dates.
- b. Access Rows by Content Only Rule- The access rows by content only rule states that you must ask the database to return column "x". It is impossible to number column and rows because of set theory. The columns and rows are not ordered, and they could appear in a different order every time the database is viewed.
- c. All Rows Must be Unique Rule- The third rule is self-explanatory. To eliminate data inconsistency and misuse of data, one needs to ensure that all rows are unique.