Andrew Arrigo
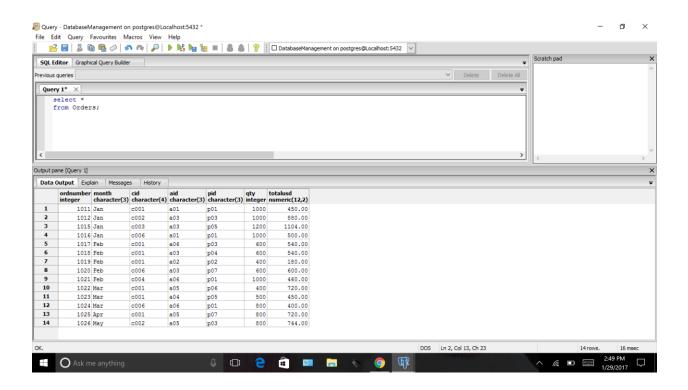
Dr. Labouseur
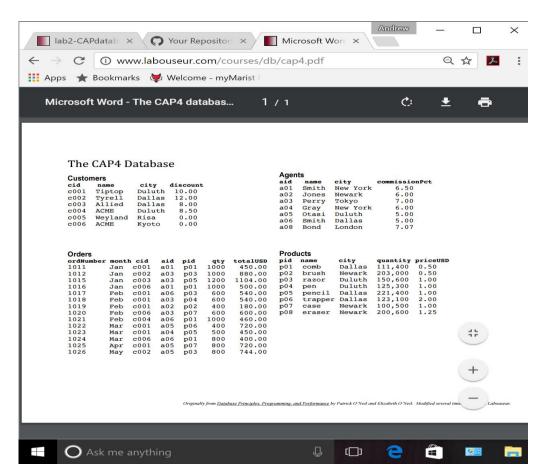
Database Management

29 January 2017

1. The queries ran match with the CAP4 database. Each query selected everything from each table.

File Edit Query Favourites Macros View Help

SQL Editor | Graphical Query Builder

Previous queries

Query 1*

```
select *
from Orders;
```

Output pane [Query 1]

Data Output | Explain | Messages | History

	ordnumber integer	month 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	1012	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
10	1022	Mar	c001	a05	p06	400	720.00
11	1023	Mar	c001	a04	p05	500	450.00
12	1024	Mar	c006	a06	p01	800	400.00
13	1025	Apr	c001	a05	p07	800	720.00
14	1026	May	c002	a05	p03	800	744.00

OK.   DOS   Ln 2, Col 13, Ch 23   14 rows.   16 msec

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www.labouseur.com/courses/db/cap4.pdf

Apps Bookmarks Welcome - myMarist

Microsoft Word - The CAP4 databas...   1 / 1

The CAP4 Database

Customers

cid	name	city	discount
c001	Tiptop	Duluth	10.00
c002	Tyrell	Dallas	12.00
c003	Allied	Dallas	8.00
c004	ACME	Duluth	8.50
c005	Weyland	Risa	0.00
c006	ACME	Kyoto	0.00

Agents

aid	name	city	commissionPct
a01	Smith	New York	6.50
a02	Jones	Newark	6.00
a03	Perry	Tokyo	7.00
a04	Gray	New York	6.00
a05	Otasi	Duluth	5.00
a06	Smith	Dallas	5.00
a08	Bond	London	7.07

Orders

ordNumber	month	cid	aid	pid	qty	totalUSD
1011	Jan	c001	a01	p01	1000	450.00
1012	Jan	c002	a03	p03	1000	880.00
1015	Jan	c003	a03	p05	1200	1104.00
1016	Jan	c006	a01	p01	1000	500.00
1017	Feb	c001	a06	p03	600	540.00
1018	Feb	c001	a03	p04	600	540.00
1019	Feb	c001	a02	p02	400	180.00
1020	Feb	c006	a03	p07	600	600.00
1021	Feb	c004	a06	p01	1000	460.00
1022	Mar	c001	a05	p06	400	720.00
1023	Mar	c001	a04	p05	500	450.00
1024	Mar	c006	a06	p01	800	400.00
1025	Apr	c001	a05	p07	800	720.00
1026	May	c002	a05	p03	800	744.00

Products

pid	name	city	quantity	priceUSD
p01	comb	Dallas	111,400	0.50
p02	brush	Newark	203,000	0.50
p03	razor	Duluth	150,600	1.00
p04	pen	Duluth	125,300	1.00
p05	pencil	Dallas	221,400	1.00
p06	trapper	Dallas	123,100	2.00
p07	case	Newark	100,500	1.00
p08	eraser	Newark	200,600	1.25

Originally from Database Principles, Programming, and Performance by Patrick O'Neil and Elizabeth O'Neil. Modified several times... Labouseur.

2. Primary Key- This is the chosen candidate key. It is a special relational database table column(s) that uniquely identifies all table records. It has a unique value for each row of data.

Candidate Key- This is the minimal superkey. It is a column(s) that uniquely identify any database record without referencing any other data. Tables can have multiple candidate keys, but one candidate key is special, also known as a primary key.

Superkey- This combination of columns uniquely identifies any row in a database management system table. A candidate key is a related concept where the superkey is the minimum number of columns to uniquely identify rows.

3. Within a database, information is required to have a name and data type. There are many datatypes in in SQL. A datatype defines what value a column can contain. A topic you might create a table for could be for a movie rental store. For example, the table would have a column for an ID, genre(GENRE), movie title(TITLE), and movie length in minutes(LENGTH). For the ID column, it would be stored as an INTEGER. The genre and title would be stored as STRING values. The movie length in minutes would be stored as an INTEGER value. There are cases in this database that could have nullable data types, such as movie length or genre. If there isn't a provided length or genre it would not affect the rest of the database system.

4. a. The "First normal form" rule is the condition that every component of every tuple is an atomic value. It does permit columns that appear as multi-valued fields. For example, in the table below, there are no multivalued fields. Each field consists of one value per line thus following the first normal rule.

b. The "access rows by content only" rule retrieves rows by their content and attribute value in each row. Each row is considered unordered. For example, when trying to access a row in the table below, you would need to refer to something specific in the row. In this case if I wanted to access row three of the products table I would refer to the value p03 under the pid column.

c. The "all rows must be unique" rule says that two rows in a table cannot be the same in every column value at once. Each row has to be unique with a different name to distinguish the rows apart. For example, in the table below, there are no two columns with within any row with two of same value.

Products

pid	name	city	quantity	priceUSD
p01	comb	Dallas	111,400	0.50
p02	brush	Newark	203,000	0.50
p03	razor	Duluth	150,600	1.00
p04	pen	Duluth	125,300	1.00
p05	pencil	Dallas	221,400	1.00
p06	trapper	Dallas	123,100	2.00
p07	case	Newark	100,500	1.00
p08	eraser	Newark	200,600	1.25