

CS 457 Database Management Systems

Programming Assignment 3

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4/17/2018

The implementation for inner join is the same implementation as for a select statement with multiple tables. The function starts off with parsing the command and pulling out key information need to interact with the current working database which includes table name, column names, and a condition statement. Next, the function determines if the statement is using a inner join. outer left join, or select command. Since inner join and select statements output the same information, the same private function is called to gather data from both tables.

The left outer join is implemented as such. First it gets the data for the tables to be joined. It then loops through the primary column of the left table. For each value in the primary column of the left table it searches the column from the right table that is being joined for a matching value. If it finds a matching value it will build the row with the matching columns and the other columns. If it doesn't find a match it just outputs the columns from the left table.

Compile instructions for this project can be found below as well as in the README in the project directory. The project supports commands exactly as they are typed in the supported command list.

This program can be run in one of 2 ways:

- 1) The program can be passed a SQL file via standard input and it will perform all the operations
in the file.

ex: `python main.py < PA3_test.sql` will run the PA3_test SQL file.

- 2) The program can also be run similarly to SQL lite.

ex: python main.py will print a ":>" to the screen. From here you can enter any of the supported

SQL commands with the correct syntax and it will execute them.

Supported Commands:

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- CREATE DATABASE DB;
 - USE DB;
 - CREATE TABLE table (name, type,..., nameX, typeX);
 - insert into table values(val,...,valX);
 - select * from table;
 - select * from table inner join on table2;
 - select * from table left outer join on table2;
 - update table
 set col = 'val'
 where col2= 'val2';
 - delete from table
 where col = 'val';
 - select col1, col2
 from table
 where col3 = 'val';