**SQL Engine Project Checklist**

**Team A3**

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**I. System Level Commands**

**CREATE** **database** command

- Everything worked properly except for the DATE field-type. The program did not recognize it as a valid field-type. So we would have to add that into the software.

- An enhancement that could be made would be adding the ability to declare a PRIMARY KEY, because the program allows for duplicate records to exist in the same table.

**DROP** **database** command worked properly

**SAVE/COMMIT** command worked properly

**LOAD database** command worked properly- is case sensitive for the name.

**II. Data Definition Language (DDL)**

**CREATE** **table** command worked properly

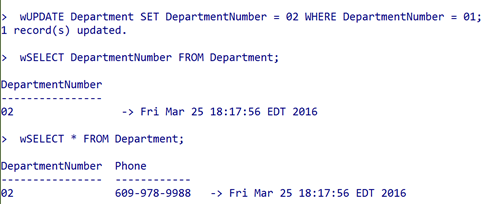
**DROP** **table** command worked properly

**III. Data Manipulation Language (DML)**

All Standard Commands worked properly

For **wUPDATE** and **wSELECT**, the correct time was displayed.

- Since the DATE keyword was not present in the source code, none of the options with DATE could be used.



The system time is displayed next to records. When the records are updated, they are timestamped with the appropriate system time during the update command.

**Commands Demonstration**

Starting SQL Engine!

> create database database1;

> drop database database1;

> create database database1;

> save;

> create database testDatabase;

Creating a new database will lose all current data if not saved. Are you ok with this? (y/n)

y

> load database database1;

Loading a database will lose all current data if not saved. Are you ok with this? (y/n)

y

Database loaded successfully!

> create table testTable(testNum int not null, testChar char(5), testVarChar varchar);

> create table test1(testNum int);

> drop table test1;

test1 successfully dropped.

> insert into testTable(testNum,testChar,testVarChar) values(5,'test','s');

> delete from testTable where testNum = 5;

1 record(s) deleted.

> insert into testTable(testNum,testChar,testVarChar) values(5,'test','s');

> update testTable set testChar = 'nTest' where testChar = 'test';

1 record(s) updated.

> wUpdate testTable set testChar = 'Dtest' where testChar = 'nTest';

1 record(s) updated.

> select \* from testTable;

testNum testChar testVarChar

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5 Dtest s

> wSelect \* from testTable;

testNum testChar testVarChar

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5 Dtest s -> Sat Mar 26 15:31:56 EDT 2016

> wSelect testNum from testTable where testNum = 5;

testNum

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5 -> Sat Mar 26 15:31:56 EDT 2016

Field type date does not work. Saves table names as lowercase.

import java.util.ArrayList;

import java.util.Scanner;

import java.util.regex.Pattern;

import java.util.Date;

import java.util.Enumeration;

import java.util.Hashtable;

import java.util.HashSet;

import java.io.File;

import java.io.FileNotFoundException;

import java.io.PrintWriter;

import java.io.UnsupportedEncodingException;

public class testSum

{

public static int sum(/\*attribute array? "current"\*/)

{

int sum = 0;

for(int i = 0; i < current.size(); i++)

{

sum += arraylist[i];

}

return sum;

}

public static int countWhere(/\*attribute array "current\*//\*, clause of where "clause"\*/)

{

int count = 0;

for(int i = 0; i < current.size(); i++)

{

if(arraylist[i].equals(clause)

{

count++;

}

}

return count;

}

public static int min(/\*attrbute array\*/)

{

int min = arraylist[0];

for(int i = 1; i < current.size(); i++)

{

if(arraylist[i] < min)

{

min = arraylist[i];

}

}

return min;

}

public static int max(/\*attrbute array\*/)

{

int max = arraylist[0];

for(int i = 1; i < current.size(); i++)

{

if(arraylist[i] > max)

{

max = arraylist[i];

}

}

return max;

}

public static int avg(/\*attribute array\*/)

{

int avg;

avg = sum(/\*attr array\*/)/count(/\*attr array\*/);

return avg;

}

}