User Guide in Detail

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//Project: Database Management System engine design
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==========
//Developing Platform: Eclipse 2019
// Java version "1.8.0_212"
//Java(TM) SE Runtime Environment (build 1.8.0_212-b10)

Open & Run the CXYsql program

#1. On Eclipse. If you have Eclipse installed on your device, just open the *.project* file and run the *mainCXYsqlPrompt.java*

#2. If you have other platforms other than Eclipse, then you may create a new JAVA project, and drag the source files from “cxySQL_Engine\src” to your project, then compile and run.

#3. In command line.

Please make sure you have your environment path and classpath set already.

First go to directory “cxySQL_Engine\bin”, then use *java* command to run the *mainCXYsqlPrompt.class* file directly, but remember to include the package name “cxyBase” at the head of *mainCXYsqlPrompt.class* file

```
C:\Users\lenovo>cd Desktop\cxySQL_Engine\bin

C:\Users\lenovo\Desktop\cxySQL_Engine\bin>java cxyBase.mainCXYsqlPrompt
--------------------------------------------------------------------------------
Welcome to cxyBaseLite
cxyBaseLite Version v1.0
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Type "help;" to display supported commands.
--------------------------------------------------------------------------------
```

Current CXYsql supporting Operations & Syntax (Insensitive to letter case)

Following examples will be shown in command line.

1. To see all the table files existing in the database

Show Tables; (to show all the table files in the data base)

```
CXYsql> Show Tables;
Table_Names
--------------------

davisbase_columns.tbl
davisbase_tables.tbl
--------------------------------------------------------------------------------
```

Now there are only two system catalog meta files, *davisbase_columns.tbl* & *davisbase_tables.tbl* (Davis is the professor of my Database course.), they store the

names and formats of tables that will be created in this database.

2. To create a new table file by user

Syntax:

Create Table User_defined_table_name (Column_name_1, Data type,
Column_name_2, Data type ...);

Example:

Create table Student (Name Text, Age Integer, Sex Text);

```
CXYsql> Create table Student (Name Text, Age Integer, Sex Text);
Table created !
--------------------------------------------------------------------------------
CXYsql> Show Tables;
Table_Names
--------------------
davisbase_columns.tbl
davisbase_tables.tbl
student.tbl
--------------------------------------------------------------------------------
```

You can also define & create your own tables!

Notice:

Current Supported Data Types are: Byte, Short, Integer, Long, Float, Double, Year, Time, Datetime, Date, Text

Do Not use the unsupported terms: Tinybyte, Small Int, Int , BigInt, Real.

3. Insert data into a table file

Syntax:

Insert into Table_name (Column_1, Column_2,.....)
Values (Value_1, Value_2,.....);

Example:

Insert Into Student (Name Age Sex)
Values (Sue 12 F);

```
CXYsql> Insert Into Student (Name Age Sex)
                    Values  (Sue  12  F  );
Insertion finished !
--------------------------------------------------------------------------------
CXYsql> Insert Into Student (Name Age Sex)
                    Values  (Sandy 10 M);
Insertion finished !
--------------------------------------------------------------------------------
CXYsql> Insert Into Student (Name Age Sex)
                    Values  (CXY 25 M);
Insertion finished !
--------------------------------------------------------------------------------
```

4. Query / Search for the data from a table file

Syntax:

Select * From Table_name; *(return all rows with every column of this table)*

Example:

```
CXYsql> Select * from Student;
+++++++++++++++++        +++++++++++++++++        +++++++++++++++++
name                     age                      sex
+++++++++++++++++        +++++++++++++++++        +++++++++++++++++
sue                      12                       f
sandy                    10                       m
cxy                      25                       m
--------------------------------------------------------------------------------
```

Syntax:

Select column_1, column_2,... From Table_name; *(return all rows with specified column of this table)*

Syntax of conditional query:

Select column_1, column_2,... From Table_name Where condition_1 and/or condition_2; *(return specified columns in the rows that meet the conditions)*

Example:

Select Name, Age From Student Where Age > 10 and Sex = M;

```
CXYsql> Select Name, Age From Student Where Age > 10 and Sex = M;
+++++++++++++++++        +++++++++++++++++
name                     age
+++++++++++++++++        +++++++++++++++++
cxy                      25
--------------------------------------------------------------------------------
```

5. Delete data from a table file

Syntax:

Delete From Table_name Where condition_1 and/or condition_2;

Example:

Delete From Student Where Age < 10 or Sex = M;

```
CXYsql> Delete From Student Where Age < 10 or Sex = M;
Deletion finished !
--------------------------------------------------------------------------------
CXYsql> Select * from Student;
+++++++++++++++++        +++++++++++++++++        +++++++++++++++++
name                     age                      sex
+++++++++++++++++        +++++++++++++++++        +++++++++++++++++
sue                      12                       f
--------------------------------------------------------------------------------
```

6. Remove a table file from database

Syntax:

Drop Table table_name;

Example:

Drop Table Student;

```
CXYsql> Drop Table Student;
Drop successfully !
--------------------------------------------------------------------------------

CXYsql> Show Tables;
Table_Names
--------------------
davisbase_columns.tbl
davisbase_tables.tbl
--------------------------------------------------------------------------------
```

7. Exit the program

Syntax:

exit or quit;

Example:

```
--------------------------------------------------------------------------------
CXYsql> exit;
Exiting...
```

8. CXYsql can still be further improved, more commands like “join” or “group by” will be included.