Database Management Systems Project 4

Design Concept :-

My program is written in python in which I have used the libraries of os, shutil and system library for importing .

Building on from the previous project as few of the functionalities were not working that were under one single file, the following new project is broken down into separate classes that contain each functionality.

Since the previous method did not work, a new implementation of all these classes were introduced.

More block comments were added and inline comments were extensively added.

These are the following classes that were introduced : -

* AlterStatement
* CommitStatement
* CreateStatement
* Database
* DeleteStatement
* DropStatement
* InsertStatement
* Joins
* Parser
* Query
* SelectStatement
* Table
* UpdateStatement
* UseStatement
* main

For transactions , these were the functionalities that were introduced :-

* BeginTransactionsStatement

Each class has its own functionalities that implements its usage respectively.

The main.py handles all these classes and calls the parser.py which has all the implementations of all the classes.

All these classes performs the following functionalities of the database –

* CREATE DATABASE
* CREATE TABLE
* ALTER TABLE
* DROP DATABASE
* DROP TABLE
* SELECT\*
* USE
* INSERT INTO
* SELECT
* UPDATE
* JOINS
* MAKE TRANSACTIONS AND HAVE LOCKS
* .EXIT

Example prompts on how to use the script:-

* To run the script on Linux : python3 main.py
  + Note: All the files should be in the same directory to execute this program.
* A following “enter a command” prompt will emerge
* Note: for all commands a “ ; “ is required
  + For e.g., to create a new database –
    - CREATE DATABASE CS457\_PA4;
    - USE CS457\_PA4;
  + To create a new table –
    - create table Employee(id int, name varchar(10));
    - create table Sales(employeeID int, productID int);
  + Insert new data –
    - insert into Flights values(22,0);
    - insert into Flights values(23,1);
  + For transactions –
    - begin transaction;
  + To exit from the script –
    - .EXIT;