DESIGN DOCUMENT

DavisBase is a rudimentary RDBMS engine that allows few SQL's DDL, DML and VDL commands to be executed. It completely operates on command line. Please read the readme file on how to compile and run the software.

This project uses davisbase_tables.tbl and davisbase_columns.tbl to store all the subsequent tables and columns created by the user. As soon as the project is started a "data/" folder is created and these two tbl files and subsequent tbl files are stored in that. The DavisBaseStarter class helps in preprocessing these initial tables an

The inner implementation of this projects derives is fundamentals from pure object-oriented design and procedural programming. With this approach various actions involved in a database and its transactions are ramified into multiple classes. The utility package focuses on creating various helper classes for creation, modification of files and directory, Insertion, managing pages of a file, handling page overflow wit B Trees, and other database, user related utilities. The processor package maintains a list of procedures that possesses the capabilities to process incoming data to produce user's desired results.

Each pagesize is 512B. And when overflow occurs the BTreeUtil takes care of reordering the file structures according to BTree logic.

Supported commands: SHOW,CREATE, SELECT, INSERT, DROP, EXIT/QUIT

The select command supports all comparators with the help of Comparators class in processor package which holds a preprocessed list of binary operators which is reused throughout the code.

In where clause the "=" operator works for all columns, however other operators like >, >=, <, <= works only on first column since it is the primary key.

The create command creates an entry in davisbase_tables.tbl and its columns will be registered in the davisbase_columns.tbl.

Each datatype and its corresponding byte value is also preprocessed in the StarterConstsInterface which is implemented by DavisBaseStarter class. All incoming dataTypes are then looped over and compared with the preprocessed values to take further action on the information.

Note: Please check readme.txt for software requirements and instruction on how to compile and run