Graphical user interface, application

Description automatically generated  
CS3223 Database Systems Implementation

AY21/22 Semester 2

Project Report Lab 2

Team 37

Prof Tan Kian-Lee

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Lab 2

Index and Metadata Changes

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| **File Changes** | **Changes** |
| SimpleDBEngine/src/simpledb/metadata/**IndexInfo**.java | * Store idxtype as private field * New public setter method setIdxType to set private index * Open() and blocksAccessed() to call hashindex / btreeindex depending on idxtype field of IndexInfo |
| SimpleDBEngine/src/simpledb/metadata/**IndexMgr**.java | * Schema to add another string field of “indextype” for tblmgr * createIndex takes in new parameter idxtype, which the tableScan ts will setString on “indextype” * getIndexInfo have getString(“indextype”) which will be used to setIdxType for IndexInfo |
| SimpleDBEngine/src/simpledb/metadata/**MetadataMgr**.java | * createIndex have new parameter String idxtype, and idxmgr.createIndex will pass the idxtype |
| SimpleDBEngine/src/simpledb/metadata/**MetadataMgrTest**.java | * mdm.createIndex to support hardcoded “hash”/”btree” as new parameters |
| SimpleDBEngine/src/simpledb/parse/**CreateIndexData**.java | * Supports new private field idxtype and updated constructor * Getter method for indexType() |

Parser Related Changes

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| **File Changes** | **Changes** |
| SimpleDBEngine/src/simpledb/parse/**Lexer**.java | * New private field of Collection<String> idxType * initIdxType() which add keywords of “hash” and “btree”, initialized during Lexer object creation * add “using” inside initKeywords() * Implemented matchIdxType and eatIdxType, similar to other match and eat methods |
| SimpleDBEngine/src/simpledb/parse/**Parser**.java | * createIndex() will eatKeyword(“using”) * CreateIndexData takes in new parameter idxtype, which is retrieved by lex.eatIdxType() |

Planner Related Changes

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| **File Changes** | **Changes** |
| SimpleDBEngine/src/simpledb/index/planner/**IndexUpdatePlanner**.java | * executeCreateIndex to call mdm.createIndex with a new parameter indexType |
| SimpleDBEngine/src/simpledb/plan/**BasicUpdatePlanner**.java | * Mdm.createIndex to take in new parameter data.indexType() |
| SimpleDBEngine/src/simpledb/server/**SimpleDB**.java | * Use HeuristicQueryPlanner and IndexUpdatePlanner instead of basic planners |

Miscellaneous

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| **File Changes** | **Changes** |
| **CreateStudentDB**.java | * Added create index statements on student / enroll with the keyword “using hash/btree” |