CS3223 Lab 4 Report

Group 63

Team Member Name	Matric Number
1. Eugene Tan Yew Chin	A0136174H
2. Yap Dian Hao	A0184679H
3. Chiew Kok Seng	A0190705H

File to Change	Changes
`SimpleDB.java`	• Uncommented to use the `HeuristicQueryPlanner` and `IndexUpdatePlanner` for this week's lab requirements.
`simpledb/opt/TablePlanner.java`	• Imported the relevant classes, `MergeJoinPlan` and `NestedLoopJoinPlan` to be used in the routines. • Created two new routines, `makeMergeJoin` and `makeNestedLoopJoin`. • The routine `makeJoinPlan` contains which type of joining algorithm to be used. Edited the routine to include all three algorithms and uncommented out the needed one for testing.
`simpledb/materialize/NestedLoopJoinScan.java`	• Created a new file, `NestedLoopJoinScan` to support the nested loop join algorithm. • Modified the `next()` routine to use a 2-level loop to perform the required nested loops join algorithm. • Added 3 new fields to record the state of the join, and the position of the record IDs of the two tables that are involved in the joining operation.
`simpledb/materialize/NestedLoopJoinPlan.java`	• Created a new file, `NestedLoopJoinPlan` to use the `NestedLoopJoinScan` when joining two

	tables, along with its relevant helper functions. • Created in a similar structure to the `MergeJoinPlan` class to preserve the intended design patterns of the original author. • However, it should be noted that instead of using a `SortPlan` in the `SortMergeJoin`, no sorting is required in the `NestedLoopJoinPlan` and therefore the default plan is used instead.
`simpledb/materialize/MergeJoinScan.java`	• Added additional checks to correct the merging process in `next()` subroutine.