

Program 1 Report

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In implementing Program 1, I modified Table.java. In this class I implemented the following three methods:

1. `public Table select (Predicate <Comparable []> predicate)`
2. `public Table select (KeyType keyVal)`
3. `public Table union (Table table2)`

The first two methods have relatively similar implementations, as they are both types of select statements. Either method loops through the list of tuples, checking if the predicate or keyVal is satisfied for a given tuple. If so, the tuple is added to a temporary list. That list is then returned as a new table.

Union has a slightly different implementation. It first checks that the tables the operation is being applied to are compatible. Assuming that they are, it then loops through the first table adding the tuples to a temporary list. After this, it does the same process on the second table. The list of tuples is then returned in a new table. If the tables are not compatible then no table is returned.

With all three methods, there is an index being created as well. Fortunately, these three methods do not need to change the primary key when returning a new table. This makes the indexing straightforward as the key stays the same, and the value stored in an index is just a specific tuple.