

For this assignment, we chose to rewrite our project in Java, from C++ (which was an *absolute* nightmare). We store **Row** objects inside **Table** objects, which are themselves inside **Database** objects.

The **Row** objects have a map of key-value pairs in the form of columnName-columnValue. We store the columnValue as a java Object, so that it can take on the datatype of whatever that column requires.

Our program supports the update, delete, and query statements. After validation has been done that the requested table exists, we take the List of **Row** objects in the table and divide that list into rows that match the selectionCriteria (the WHERE statement, and possibly additional AND statements) and all other rows. After applying the appropriate changes, per the operation, we re-join the two lists back together and do a full-overwrite of the data that was previously in the table.

To run our program, one has to simply type in the name of our “executable” into the command prompt, at the directory where our code is at. Additionally, you can run our program in “script mode” by supplying an additional argument after the “executable”. If you are curious how to actually run a java jar, which is what we are doing, type *more* or *cat*. The name of our “executable” is *dbms*.