CSL310

DataBaseMetaData
Design Document

In order to get connection I have made use of Connection object. And Drivermanager.getConnection() to establish it.

In order to get Metadata of the database I have used connectionObject.getMetaData() function.

1) Total number of tables

I have used getTables command to find number of tables in the database. Then i have used its typename to filter only TABLE objects as output and exclude views etc.

2) Min, Max, and Average number of columns per table

I use getColumns() function to get the column count from database metadata output object.

3) Min, Max, and Average number of rows present per table

Since rows are not a part of metadata, we have to run a query to count them. I have used SELECT * FROM tablename and the resultset is of type TYPE_SCROLL_INSENSITIVE. So doing result.next() once directly gives me the row count and saves from unnecessary iterations as we are not interested in what data is stored, we only need the count.

4) Min, Max, and Average number of FKs present per table

To calculate number of foreign keys in a table, i have iterated in all tables for every table and found cross references between them. getCrossReference() method has been used for the same.

5) Min, Max, and Average number of indexes present per table

I have used getIndexInfo() on the metadata to find all indexes present in a table. It takes tablename as one of its inputs.

6) Min, Max, and Average number of auto incremented columns present per table

To count auto incremented columns I have used 23rd value of getColumns() output which returns ”YES” if column is auto incremented else it returns “NO”.

7) Min, Max, and Average number of BLOB columns present per table

To calculate BLOB columns I have compared their type names extracted from 6th value of getColumns() with string BLOB using equalsIgnoreCase() which returns a boolean value

8) Min, Max, and Average number of INTEGER columns present per table

To calculate INTEGER columns I have compared their type names extracted from 6th value of getColumns() with string INTEGER using equalsIgnoreCase() which returns a boolean value