COSC3380
HW1: SQL Queries

1 Introduction

You will develop SQL queries to answer information questions written in natural language (plain English). That is, you need to translate the question into a query that returns the desired result (table or value).

2 Input and output

The input is a relational database consisting of several tables, mostly normalized. The output for each query will be a table, as returned by SQL.

Airline database: The specific database will contain ticket and booking information for an airline in Russia. The connection and schema information will be explained in the MS Teams channel.

3 Output

You need to produce one table or value with the query result. The table name and column names will depend on the query and will be fixed to enable testing. That is, you can create any intermediate results or tables with any column names, but the final table should have exactly the same column names. The TAs will take care of ordering rows, if necessary.

4 Questions about the Database

The precise list of database questions is posted in MS Chat channel to avoid misunderstandings and to repost any clarifications. You should post any clarifications or commentsd if you find the question confusing or ambiguous. The expected result table will not be disclosed.

5 Requirements

- Programming language: SQL. For this homework no other language is necessary (e.g. Python, Java).
- Relational operations: union, intersection, selection, projection and join. Projection includes GROUP BY aggregation and DISTINCT.
- You must store query results in one output table. The table name and column names will be specified by the TAs. Name discrepancies will result in failing tests. Also, avoid including extra columns not requested in the query.

You can create temporary tables or you can solve the query with a single query and nested SELECTs. You can create temp tables to solve each set operation step by step.

- Store each query in one file.sql in a HW1 folder. Names and folder name will be specified by the TAs.
- SQL code must have comments, including your name (last name, first, exactly as it appears in PS).
- SQL must be indented, following the style from the textbooks.
- If you find some requirement difficult and you do not implement it you can include a comment in your README file explaining why.
- Correctness is the most important requirement: TEST your program with many expressions. Your program should not crash or produce exceptions. You are not expected to come up with the fastest queries.
- Query execution: Your queries must be correct (syntax, valid tables, valid columns). Tjhe DBMS should not produce errors or exceptions.
- Folder and file name to be specified by TA. Example: folder: /hw1 and queries q01.sql, q02.sql, ...