

Project 1

CS 5300

Due date: October 26 (Firm Deadline)

You are expected to write a part of an SQL compiler. The compiler will read (scan) a set of SQL queries as input and perform the following steps for each query:

- 1) The input query is scanned to identify different entities, operations, and order of execution.
- 2) The input query is then translated into its equivalent relational algebra.
- 3) The generated relational expression is then mapped into a query tree.
- 4) You will write a report about your compiler. Your report must be self-explanatory, clearly explaining the structure of your compiler, the operation of the scanner, ..., and a justification of its correctness.

Please make note of the following:

- 1) The test data will be made available on the course web site on October 19.
- 2) The due date of the project is firm and will not change under any circumstances.
- 3) Each group is expected to submit in class a hard copy of the report along, with a print-out of the compiler. The compiler is expected to be well- documented.
- 4) SQL queries could be nested, consisting of set and relational operators, aggregate functions, IN, EXISTS,
- 5) Please note that randomly-selected groups may be asked to demo their project and execute it on input data.