Purdue University
Computer Science Department
CS44800 Homework 3 (Feedback)
Fall 2019

Just a reminder, if you are planning to submit your assignment handwritten, please write legibly. Also, if you have questions about how to solve the questions in the Homework, use PSO sessions or office hours.

Most common errors were:

Question 1.

- What stood out in relational algebra is that many of you got 1b wrong. We recommend you practice the usage and semantics of the DIVISION or DIFERENCE operator in relational algebra.
- The following tool may be helpful to practice relational algebra: http://dbis-uibk.github.io/relax/. Check Piazza post @207.

Question 2.

- Most students did a fairly perfect job in drawing the trees.

Question 3.

- Since we are using double buffering and accessing consecutive blocks, we can ignore the seek time and rotational delay for all accesses following the first access. Therefore we should be using the bulk transfer rate formula instead $(s + rd + (k * (B / btr)))$

Question 4 (SQL).

- The statement 4(b) question was wrong. Since the key of the table DEPT_LOCATIONS is compound is not possible to update the location of a specific Dept without violating a FK constraint. Because of this mistake in the question, we did not deduct points to any answer for this question.
- As a recommendation, always try to JOIN table first, before using subqueries.
- Several cases where the results of subqueries were treated as single values. A subquery is not the same as an aggregate function. When using subqueries make sure to use IN or EXISTS operator to the relate the subquery with your main query.
- Another common mistake was to use aggregate functions in the WHERE clause. Aggregate functions cannot be used inside a WHERE clause. Use HAVING instead to apply filter to aggregate data.