TU München, Fakultät für Informatik
Lehrstuhl III: Datenbanksysteme
Prof. Dr. Thomas Neumann

Query Optimization

10. Exercise

Due January 15, 2018, 9 AM

submit via email (radke@in.tum.de)

Exercise 1

Consider the following *sequence* of relations R_1, R_2, R_3, R_4 with cardinalities $|R_1| = 200$, $|R_2| = 1$, $|R_3| = 1$, $|R_4| = 20$ and join selectivities $f_{1,2} = 0.5$, $f_{1,4} = 0.2$, $f_{3,4} = 0.1$

Give the fully-parenthesized, optimal join expression that abides by the above order. Use C_{out} as cost function.

Exercise 2

This exercise is a preparation for chapter 4 on counting the number of accesses to disk. Formally prove the following:

- $\binom{n}{k} = \binom{n}{n-k}$
- $\binom{n}{k} = \binom{n-1}{k} + \binom{n-1}{k-1}$