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

Query Optimization

5. Exercise

Due 24.11.2014, 9 AM

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Exercise 1

Create the DP table (manually) for the relations A, B, C with cardinalities $|A| = 10$, $|B| = 20$, $|C| = 100$ and selectivities $f_{AB} = 0.5$, $f_{BC} = 0.1$ (cost function C_{out}). Mark the final table entries. Enumerate subsets in the integer order. Consider cross products.

Exercise 2

Using the program from the last exercise as basis, implement Greedy Operator Ordering. Print the partial steps together with their costs (e.g., $P = R_1 \bowtie R_2 200, Q = P \bowtie R_3 400$), as well as the final join tree.

Exercise 3

Load the TPC H data set. (You can use our snapshot of the data set, the loadtpch-* script loads the data). Then, execute the following SQL query using the program implemented above:

select *
from lineitem l, orders o, customers c
where l.l_orderkey=o.o_orderkey and o.o_custkey=c.c_custkey and c.c_name='Customer#000014993'.