Query Optimization
3. Exercise
Due 12.05.2014, 9 AM
submit via email (Andrey.Gubichev@in.tum.de)

Exercise 1
The selectivity estimations (from the previous homework) are far from perfect. Construct specific examples (database schema, concrete instances of relations and selections/joins), where our estimations are very "bad", i.e. for some queries (give examples of SQL queries) the logical plan will be suboptimal (w.r.t. $C_{out}$), if we use these estimations. Give two examples (one for selections, one for joins).

Exercise 2
Give an example query instance where the optimal join tree (using $C_{out}$) is bushy and includes a cross product. Note: the query graph should be connected!

Exercise 3
Using the program from the first exercise as a basis, implement a program that parses SQL queries, translates them into tinydb execution plans, and executes the query. Note: a canonical translation of the joins is fine, but push all predicates of the form $attr = const$ down to the base relations.