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Query Optimization

5. Exercise, Winter 2007/2006

Due 2007-12-4

1. Show that the optimal order of applying a set of joins $S = \{\sigma_1, \dots, \sigma_2\}$ can be found by sorting the elements of S according to a ranking function. Note that $|S|$ can be larger than $2!$ (4)
2. Give an example where **GreedyHeuristic-1** does not produce the optimal solution, but **IKKBZ** does. (2)
3. Extend the program from the previous exercise to create joins if possible (**HashJoin** in **tinydb**). Measure the difference for the query

```
select *  
from lineitem l,order o  
where l.l_orderkey=o.o_orderkey
```

Note: This uses the TPC-D data set available from the exercise web page. (4)