



## Query Optimization

10. Exercise

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### Exercise 1

1. Using the program from the previous exercises as basis, implement the Quick-Pick algorithm. Try to make it really "quick"! What is the optimal data structure to keep partial solutions?
2. Choose your own example queries for the TPC-H dataset (clearly, they should have at least four joins)
3. Generate a number of random trees for the example TPC-H queries, and pick the best one. Output the cost distribution.

### Exercise 2

Give a formal proof of the following:

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