TECHNISCHE UNIVERSITÄT
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Department of Computer Science
AG Algorithms and Complexity

Issue Date: 15.05.2013
Version: 2013-05-15 13:04

3rd Hands-on sheet for
Advanced Algorithmics, SS 13

Hand In: *Exercise sessions, hand-in box in stairwell 48-6 or email.*

Step 4.2: Find better algorithms – speeding up exhaustive search

Try to apply the new concepts from lecture to our scenarios.

- Research algorithms that employ depth-bounded search trees for the problems we model our scenarios with. What are known bounds on their runtime?

- Implement the most promising candidates and run them against your testbed. What do you observe in terms of performance?

- Run the algorithms on our real-world data. How do they perform? Can you explain differences in performance?

Note that there are more techniques that aim at speeding up brute-force search, for example *branch & bound/cut*. Research such alternatives; in particular, look for heuristics suitable for cutting whole branches of the search tree early. Do these adaptions improve performance?