

Übungsblatt 1

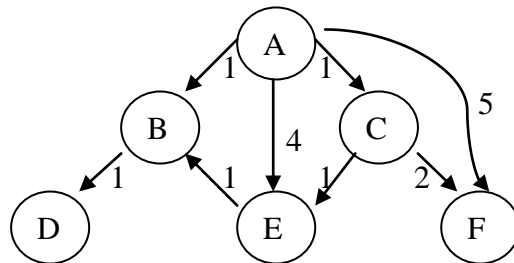
Abgabe: Mittwoch, 23.04.2008 bis 13 Uhr

Exercise 1 Introduction (15 Points)

- [5 pts.] Define in your own words the terms: intelligence, artificial intelligence
- [5 pts.] Turing developed an operational test for artificial intelligent behavior (Turing Test). Give examples of other tests that, in your opinion, could be used for measuring or observing intelligence in machines. (What about application-specific tests?)
- [5 pts.] Take an on-line Turing test at <http://www.turinghub.com>. Would the chatbot pass the test in your opinion? If not, why do you think this would not really be a human?

Exercise 2 Search (25 Points)

In the following search graph **A** is the start state and **F** is the goal state. Assume that for each search method a descendent node will be visited in alphabetical order when possible. The numbers in the edges are the weights of the edges (costs of the step).



- [5 pts.] In what order will the states be expanded by a depth-first graph search?
- [5 pts.] In what order will the states be expanded by a breadth-first graph search?
- [5 pts.] In what order will the states be expanded by a uniform-cost graph search?
- [5 pts.] Which method performs best for this graph? Why?
- [5 pts.] Give two examples (two graphs):
 - in the first one uniform cost search should perform better than breadth-first search
 - in the second one breadth-first search should perform better than uniform cost search