Principles of AI Planning

Prof. Dr. B. Nebel, R. Mattmüller
N. Mayer
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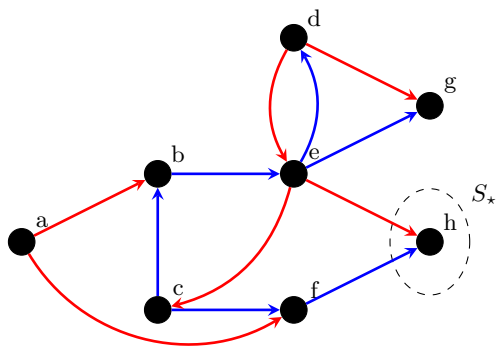
University of Freiburg
Department of Computer Science

Exercise Sheet 12

Due: February 8th, 2013

Exercise 12.1 (Strong cyclic planning, 5 points)

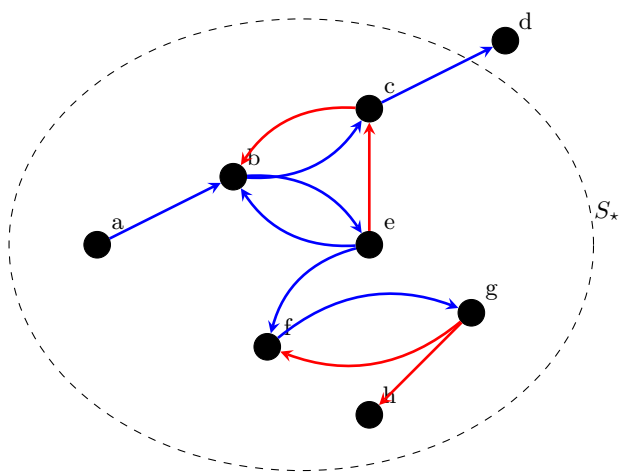
Consider the planning task that induces the following nondeterministic transition system with two operators o_{red} and o_{blue}.



Apply the strong cyclic planning algorithm presented in the lecture, and specify the candidate good state sets C_i as well as, for each iteration of the outer loop, the sets of states W_j from which a goal state can be reached in at most j steps without the danger of leaving the current set of candidate good states C_i. Extract a strong cyclic plan π for all good states.

Exercise 12.2 (Maintenance Goals, 5 points)

Simulate the computation of the algorithm for maintenance goals for the following nondeterministic transition system with two operators o_{red} and o_{blue}.



Specify the sets $Safe_i$ and a resulting plan for maintenance π.

Note: The exercise sheets may and should be worked on in groups of two students. Please state both names on your solution (this also holds for submissions by e-mail).