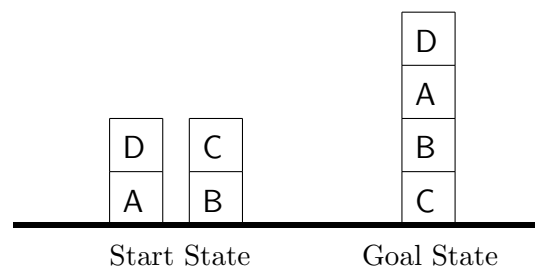


METHODS OF ARTIFICIAL INTELLIGENCE
WINTER TERM 2002/2003
KUEHNBERGER

ASSIGNMENT 8 / THE LAST ONE...
DUE DATE: 31.01.2003

Exercise 1: Planning (STRIPS / Example)

Consider the following blocks world situation:



- (i) Encode this problem using STRIPS operators. (4 credits)
- (ii) Why is this example a problem for a linear planner? (3 credits)
- (iii) Solve the problem. What did you do with subgoals? (3 credits)

Exercise 2: General Questions to Planning

- (i) Describe the differences and similarities between search problems and constraint satisfaction problems on the one hand and planning problems on the other. (4 credits)
- (ii) Compare the frame axioms of the situation calculus with the closed world assumption of STRIPS. State the definitions, describe them in an example. What are they good for, what are advantages, what are the disadvantages of the accounts. (6 credits)

Exercise 3: Planning (Situation Calculus / Example)

Consider the Prolog modeling of blocks world in the slides (Slide: 30/31).

- (i) Give two examples for which you do not need frame axioms in order to find a solution. (3 credits)
- (ii) Give two examples for which you need frame axioms to find a solution. Show that it is really necessary to use frame axioms. (7 credits)

Exercise 4: Present

Because we agreed that this assignment should have a reduced working load and because we think that you did a very good job during the semester you will get 10 credits for nothing. (10 credits)