T-79.194 Homework
Search Trees, pages 299-315
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Deadline: 25.3.2004

1. a) How many nodes and how many leaves there are in the complete labeling tree for the following CSP?

$\langle x_1 \neq x_2, x_2 \neq x_3; x_1 \in [1..10], x_2 \in [1..10], x_3 \in [1..10], x_4 \in [1..10] \rangle$

1. b) With the ordering $x_1 \prec x_2 \prec x_3 \prec x_4$, how many nodes and how many leaves there are in the reduced labeling tree for the same CSP?

2. Construct (as in the last slide) a *prop* labeling tree for the CSP

$$\langle x < y, y < z, x + y \leq z; x \in [3..5], y \in [1..6], z \in [7..8] \rangle$$

with variable ordering $x \prec y \prec z$ and using the ARC CONSISTENCY 1 and 2 rules of page 140 as constraint propagation (applying these rules until the CSP is closed under them). Write down beside respective arc any domains that have been changed as a result of constraint propagation. Also write down the value of the current variable beside each node resulting from a split operation (as in the slide).