

02180 Intro to AI

Exercises for week 5, 2/3-21

Exercise 1

Solve questions (a), (b) and (c) of Exercise 8 in Chapter 5 of R&N: “Consider the two-player game described in Figure 17...”

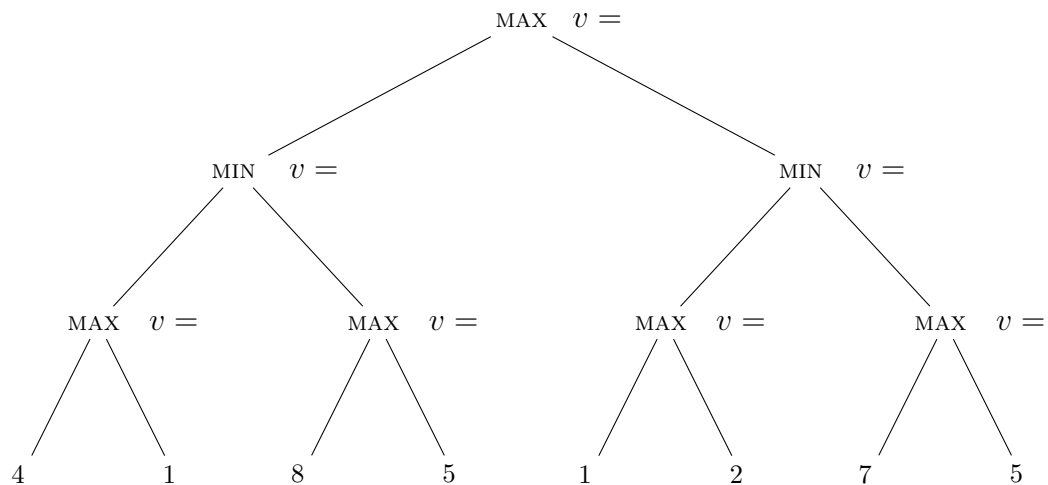
Exercise 2

Solve questions (a), (b), (c) and (d) of Exercise 9 in Chapter 5 of R&N: “This problem exercises the basic concepts of game playing, using tic-tac-toe...”

Exercise 3

This is an exam exercise from the course in spring 2018.

1. Consider the game tree below with MAX and MIN nodes explicitly marked. Add the MIN-IMAX value of each node to the game tree (after “ $v =$ ”). Then highlight the edge corresponding to the best move of MAX in the initial state of the game.



2. Assume ALPHA-BETA-SEARCH (MINIMAX with α - β pruning) is used to explore the game tree. Assume that the children of a node are visited in order from left to right. Mark any cuts in the tree (pruned subtrees) above and, for each, indicate whether it is an α -cut or a β -cut.