## Exercise Sheet 6 (15 Points)

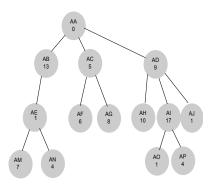
Submission: Monday, 16.12.2013, 23:00

## Exercise 1 Adversarial Search (15 Points)

a) Explain the properties of the minmax algorithm (complete, optimal, time complexity, and space complexity), motivating then also the necessity of the  $\alpha$ - $\beta$  pruning. Does this method solve completely the computational issues?

(6 Points)

b) Apply to the given game tree the  $\alpha$ - $\beta$  pruning algorithm, considering that the max player A is starting. Indicate all values for  $\alpha$  and  $\beta$  at each step.



(6 Points)

c) Which changes needs to be applied to the minmax algorithm if we consider games of chance and/or games of imperfect information? (3 Points)