UNIVERSITAT POLITÈCNICA DE VALÈNCIA

Workbook:
Adversarial Search

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Learning objectives

- To know the basics of adversarial search.
- To apply the ***minimax*** algorithm

Basic *minimax* algorithm

mm(s**,** d**,** max**)** // state, depth, max="Does MAX move?"

if s is terminal: **return** utility for s

if $d = 0$: **return** heuristic value for s

// if max, return maximum minimax value from children

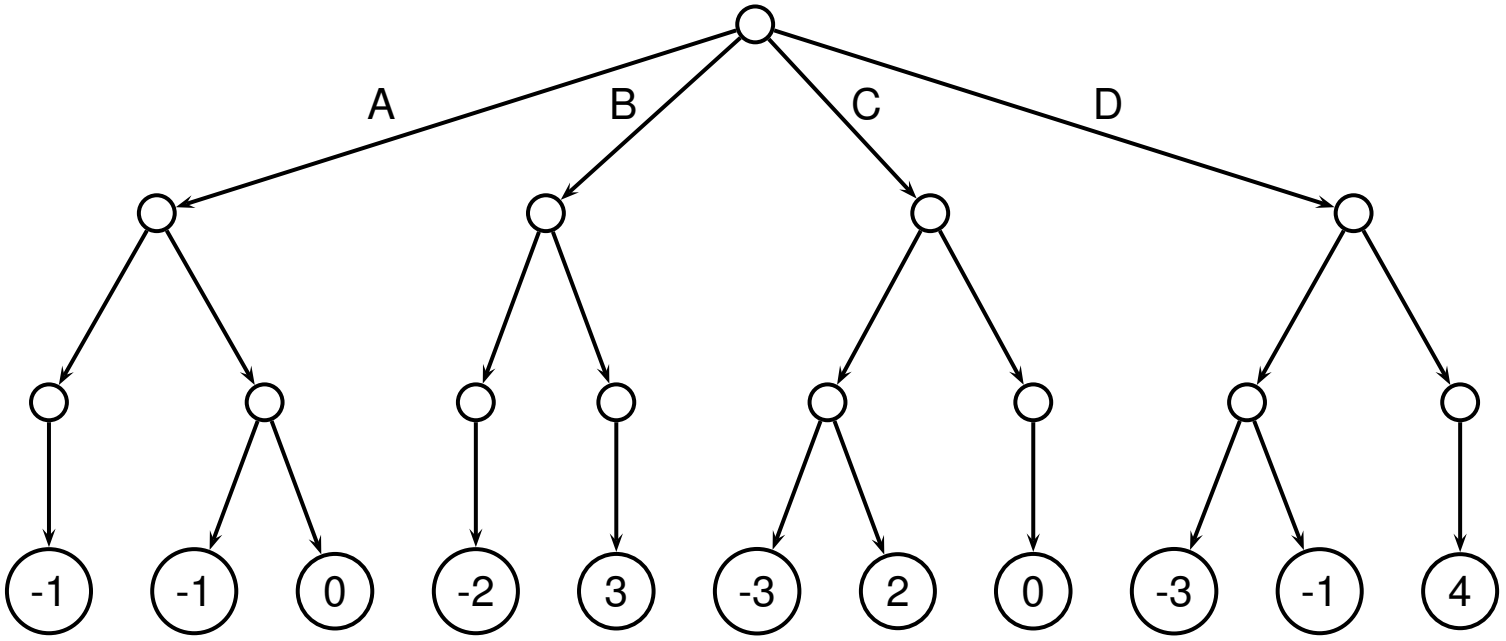
if max: $v = -\infty$; $\forall\, n \in$ succ(s): $v = \max(v,$ **mm**$(n, d-1,$ FALSE$))$

// if min, return minimum minimax value from children

else: $v = \infty$; $\forall\, n \in$ succ(s): $v = \min(v,$ **mm**$(n, d-1,$ TRUE$))$

return v

- ***Question 1***: Draw the search tree of applying the ***minimax*** algorithm to the search space of a game shown in the following figure:



- ***Question 2***: What is the best move from the root node applying the ***minimax*** algorithm to the previous search space?