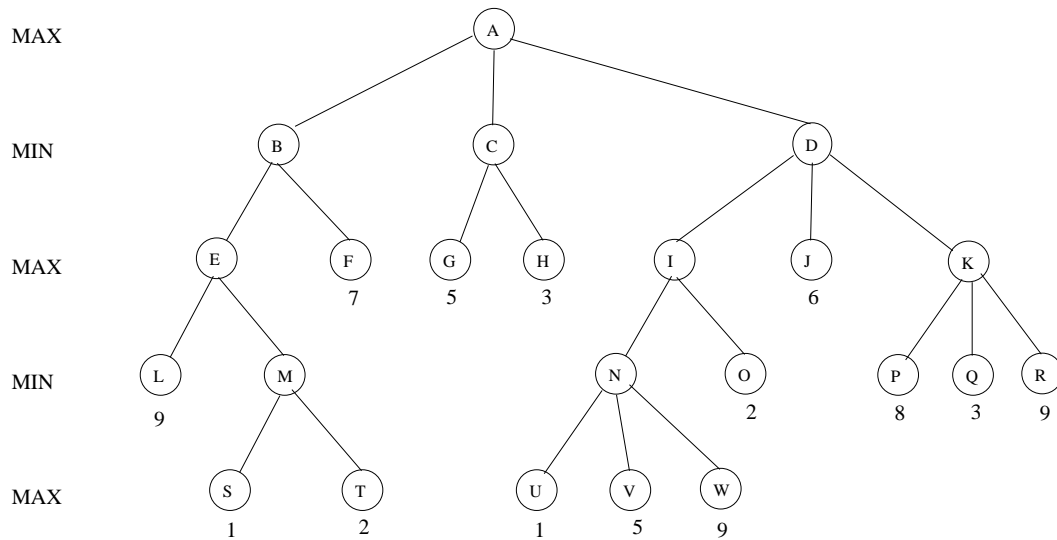


Recitation 4: Progressive Deepening for Search in Games
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1. Consider the following game tree.



Use progressive deepening with Alpha-Beta to compute the best move for the maximizer at node A (*i.e.*, move to B? C? Or D?). When performing Alpha-Beta to depth d , use the evaluations obtained from performing Alpha-Beta to depth $d - 1$ to order the way in which the children/successors of a node are evaluated (whenever possible). If an internal node of the game tree above needs to be statically evaluated when considering only up to a given depth, then their values are B 2, C 5, D 4, E 1, I 3, K 7, M 8, N 6. For every depth $d = 1, 2, 3, 4$,

- (a) determine the best move for the maximizer at A;
- (b) list the nodes in the order in which Alpha-Beta is applied;
- (c) calculate the number of static evaluations used as well as the total number of nodes evaluated.