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$\text{minimax}(s) =$   
 $\text{utility}(s, \text{MAX})$  if IS-TERMINAL( $s$ )  
 $\max_{a \text{ in actions}(s)} \text{minimax}(\text{result}(s, a))$  if TO-MOVE( $s$ )=MAX  
 $\min_{a \text{ in actions}(s)} \text{minimax}(\text{result}(s, a))$  if TO-MOVE( $s$ )=MIN

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**function** MINIMAX-SEARCH(*game, state*) **returns** an action

*player*  $\leftarrow$  *game*.TO-MOVE(*state*)

*value, move*  $\leftarrow$  MAX-VALUE(*game, state*)

**return** *move*

**function** MAX-VALUE(*game, state*) **returns** a (*utility, move*) pair

**if** *game*.IS-TERMINAL(*state*) **then return** *game*.UTILITY(*state, player*), null

*v*  $\leftarrow -\infty$

**for each** *a* **in** *game*.ACTIONS(*state*) **do**

*v2, a2*  $\leftarrow$  MIN-VALUE(*game, game*.RESULT(*state, a*))

**if** *v2* > *v* **then**

*v, move*  $\leftarrow$  *v2, a*

**return** *v, move*

**function** MIN-VALUE(*game, state*) **returns** a (*utility, move*) pair

**if** *game*.IS-TERMINAL(*state*) **then return** *game*.UTILITY(*state, player*), null

*v*  $\leftarrow +\infty$

**for each** *a* **in** *game*.ACTIONS(*state*) **do**

*v2, a2*  $\leftarrow$  MAX-VALUE(*game, game*.RESULT(*state, a*))

**if** *v2* < *v* **then**

*v, move*  $\leftarrow$  *v2, a*

**return** *v, move*