

**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*, *move*  $\leftarrow -\infty$

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

*v*<sub>2</sub>, *a*<sub>2</sub>  $\leftarrow$  MIN-VALUE(*game*, *game*.RESULT(*state*, *a*))

**if** *v*<sub>2</sub> > *v* **then**

*v*, *move*  $\leftarrow$  *v*<sub>2</sub>, *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*, *move*  $\leftarrow +\infty$

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

*v*<sub>2</sub>, *a*<sub>2</sub>  $\leftarrow$  MAX-VALUE(*game*, *game*.RESULT(*state*, *a*))

**if** *v*<sub>2</sub> < *v* **then**

*v*, *move*  $\leftarrow$  *v*<sub>2</sub>, *a*

**return** *v*, *move*