

$$V_{minmax}(s, d) = \begin{cases} Utility(s), & IsEnd(s) \\ Eval(s) & d = 0 \\ \max_{a \in actions(s)} V_{minmax}(Succ(s, a), d) & Player(s) = a_0 \\ \min_{a \in actions(s)} V_{minmax}(Succ(s, a), d) & Player(s) = a_1 \\ \min_{a \in actions(s)} V_{minmax}(Succ(s, a), d) & Player(s) = a_2 \\ \cdot & \\ \cdot & \\ \cdot & \\ \min_{a \in actions(s)} V_{minmax}(Succ(s, a), d - 1) & Player(s) = a_n \end{cases}$$

$$V_{minmax}(s, d) = \begin{cases} Utility(s), & IsEnd(s) \\ Eval(s) & d = 0 \\ \max_{a \in actions(s)} V_{minmax}(Succ(s, a), d) & Player(s) = a_0 \\ \Sigma_{a \in actions(s)} \frac{V_{minmax}(Succ(s, a), d)}{count(actions(s))} & Player(s) = a_1 \\ \Sigma_{a \in actions(s)} \frac{V_{minmax}(Succ(s, a), d)}{count(actions(s))} & Player(s) = a_2 \\ \cdot & \\ \cdot & \\ \cdot & \\ \Sigma_{a \in actions(s)} \frac{V_{minmax}(Succ(s, a), d-1)}{count(actions(s))} & Player(s) = a_n \end{cases}$$

