CS221 Fall 2018 Homework 5

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Collaborators:

By turning in this assignment, I agree by the Stanford honor code and declare that all of this is my own work.

Problem 1

(a) We can write the recurrence as a straight-forward generalization of what was presented in lecture. We'll have:

$$V_{\mathrm{minmax}}(s,d) = \begin{cases} \mathrm{Utility}(s) & \mathrm{IsEnd}(s) \\ \mathrm{Eval}(s) & d = 0 \\ \max_{a \in \mathrm{Actions}(s)} \{V_{\mathrm{minmax}}(\mathrm{Succ}(s,a),d)\} & \mathrm{Player}(s) = a_0 \\ \min_{a \in \mathrm{Actions}(s)} \{V_{\mathrm{minmax}}(\mathrm{Succ}(s,a),d)\} & \mathrm{Player}(s) \in \{a_1, \cdots a_{n-1}\} \\ \min_{a \in \mathrm{Actions}(s)} \{V_{\mathrm{minmax}}(\mathrm{Succ}(s,a),d-1)\} & \mathrm{Player}(s) = a_n \end{cases}$$

(b) In "submission.py"