Rienforcement learning: Assignment 2

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1.1 Exercise 3.17

Must give action value q_π(a,s) in terms of q_π(a',s')

q_π(a,s) $= E_\pi[G_t \mid S_t = \text{s} , A_t = \text{s}]$

V_π(s) $= \sum_a \pi$(s,a) $\sum P_{ss'}^a \ (R_{ss'}^a + \alpha \ V_\pi$(s'))

q_π(a,s) $= \sum_{s'} P_{ss'}^a \ (R_{ss'}^a + \sum_{a'} \alpha \ q_\pi$(a',s'))

1.2 Exercise 3.19

q_π(a,s) $= E \ [R_{t+1} + \alpha \ V_\pi(\ s'_{t+1}) \mid S_t = \text{s} , A_t = \text{s}]$