CS540 Section 3 HW2 02/22/2015

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P3.(a). I need to make two changes to make Simulated Annealing algorithm behaves the same as hill climbing. First, select the highest-valued successor of current state rather than a random one. Second, if $\Delta E \le 0$, reject it rather than accept it with probability $e^{\Delta E/T}$.

(b). 1. $P = e^{\Delta E/T} = e^{-1/20} = 95.1\%$

2. $P = e^{\Delta E/T} = e^{-12/25} = 61.9\%$

3. $P = e^{\Delta E/T} = e^{-1/276} = 99.6\%$

4. Because neighbor state's evaluation is greater than current state's evaluation, it will be accepted. So $P = 100\%$