Homework 3

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September 23, 2017

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Question 1

The recursive problem is:

$$v(s,a) = \max_{a' \in \tau(s,a)} \frac{(y(s) + a - q(a'))^{1-\sigma}}{1-\sigma} + \beta \sum_{s' \in \{u,e\}} \pi(s'|s)v(s',a')$$

States variables: a, s;
Control variables: a', s';
State space: $a \in [-2, 5]$, $s \in \{u, e\}$;
Constraint Correspondence: $\tau(s,a) = [-2, 5] \cap [-2, \frac{y(s)+a}{q}]$.

Question 2