Social EE

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V - value you see
H - horizon
$\theta(H)$

$\theta(H = 0) = 50$
$EV(H = 0, x) = x, if x > 50$
$EV(H = 0, x) = 50, if x < 50$

$\theta(H = 1) =?$

exploit: V + EV(H-1, V)
explore: $\sum_{v=1}^{100} \frac{1}{100} * (v + EV(H - 1, max(v, V)))$

$V + EV(H - 1, V) = \sum_{v=1}^{100} \frac{1}{100} * (v + EV(H - 1, max(v, V)))$, solve for V

$EV(H = 1, x) = exploit, if x > \theta(H = 1)$
$EV(H = 1, x) = explore, if x < \theta(H = 1)$