CSC 485D A2

1) a) $A+3 \rightarrow A+2 \rightarrow B-3 \rightarrow A+4 \rightarrow B-4 \rightarrow$ terminate

$B-2 \rightarrow A+3 \rightarrow B-4 \rightarrow$ terminate

V(A) $3+2-3+4-4 = 2$

$3-4 = -1$

$$V(A) = \frac{2+(-1)}{2} = 0.5$$

V(B) $-3+4-4 = -3$

$-2+3-4 = -3$

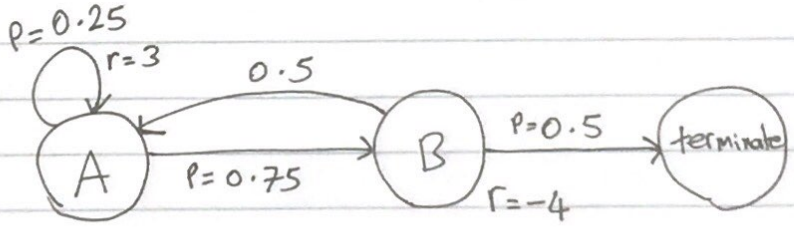
$$V(B) = \frac{-3+(-3)}{2} = -3$$

$A \rightarrow A$ $^{1/4}$ A-B

$A \rightarrow B$ $1/4$

$A \rightarrow 0$

c)



d) $V_*(s) = E[R_{t+1} + \gamma V_*(S_{t+1}) \mid S_t = s]$

$V(A) = 3 + 0.25V(A) + 0.75(V(B))$

$V(B) = -4 + 0.5V(A)$

$V(A) = 0$

$V(B) = -4$