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1a)

π1(A) = L

π2(A) = S

Uπ(A) = -0.1 + γ P(A|A, a)Uπ(A) + γ P(B|A, a)Uπ(B)

(1 – γ P(A|A, a))Uπ(A) = γ P(B|A, a) – 0.1

Uπ(A) = = = =

As

As

Hence, as P(A|A, a) decreases, Uπ(A) increases

Since P(A|A, L) < P(A|A, S),

Uπ1(A) > Uπ2(A)

Hence,

π\*(A) = L

1b)

P(A|A, L) = =

P(B|A, L) = =

Uπ\*(A) = = = 0.23636

2)

V(s1) = 1 + 0.5\*(0.1\*2+0.9\*5) = 3.35

V(s2) = 2 + 0.5\*(0.6\*2+0.4\*5) = 3.6