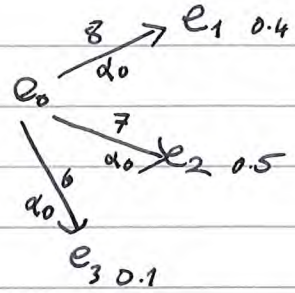
Model Solution.

Comp 310 2012/13 Q1B

Calculating E.U. of Ag1:

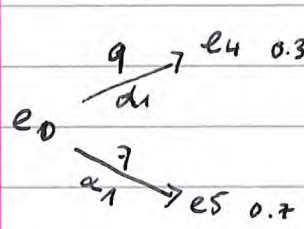


$E.U. = (0.4 \times 8) + (0.5 \times 7) + (0.1 \times 6)$

$= 3.2 + 3.5 + 0.6$

$= 7.3$

Calculating E.U. of Ag2:



$E.U. = (0.3 \times 9) + (0.7 \times 7)$

$= 2.7 + 4.9$

$= 7.6$

With respects to Env_1 and u_1, Agent Ag_2 is optimal. This is because the Expected Utility of Ag_2 is greater than the expected utility of Ag_1.

Model Solution

Comp310 2012/13 Q2F

B_0:

clear(C)

clear(D) ✓

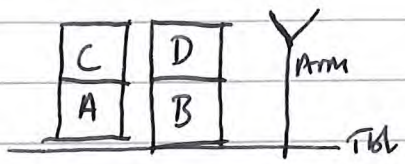
On(C,A)

On(D,B) ✓X

OnTable(A)

OnTable(B)

Arm Empty ✓x



I:

Clear(A)

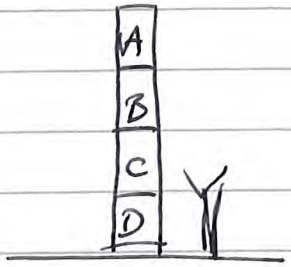
On(A,B)

On(B,C)

On(C,D)

OnTable(D)

Arm Empty



a_1: Unstack(D,B)

B_1:

clear(C)

Clear(D)

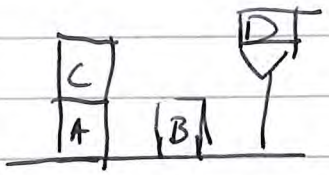
Clear(B)

On(C,A)

OnTable(A)

OnTable(B)

Holding(D) ✓x



a_2: Putdown(D)

B_2 Clear(C) ✓

clear(D)

Clear(B)

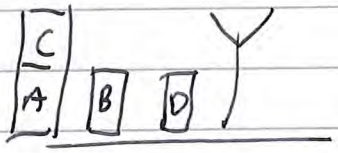
On(C,A) ✓x

On Table(A)

OnTable(B)

(OnTable(D)

Arm Empty ✓x



a_3: ~~Pickup~~ Unstack(C,A)

Clear(A)

B_3: clear(C)

Clear(D) ✓x

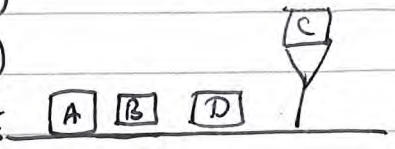
clear(B)

OnTable(A)

OnTable(B)

OnTable(D)

Holding(C) ✓x



a_4: Stack(C,D)

B_4: ArmEmpty ✓x

On(C,D)

Clear(A)

clear(c)

Clear(B) ✓

OnTable(D)

OnTable(B) ✓x

OnTable(A)

α_5 Pickup(B)

B_5: Holding(B) ✓✗

On(C,D)

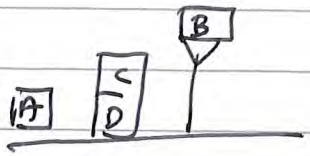
Clear(A)

Clear(C) ✓✗

Clear(B)

OnTable(D)

OnTable(A)



α_6 Stack(B, C)

B_6: ArmEmpty ✓✗

On(B,C)

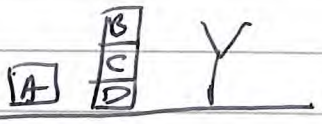
On(C,D)

Clear(A) ✓

Clear(B)

OnTable(D)

OnTable(A) ✓✗



α_7 Pickup(A)

B_7: Holding(A) ✓✗

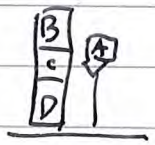
On(B,C)

On(C,D)

Clear(A)

Clear(B) ✓✗

OnTable(D)



α_8 Stack(A, B)

B_8:

ArmEmpty

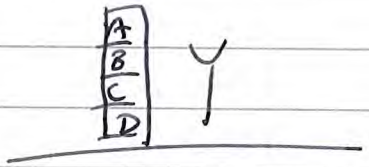
On(A,B)

On(B,C)

On(C,D)

Clear(A)

OnTable(D)



π: (Unstack(D,B), Putdown(D), Unstack(C,A), Stack(C,D)
Pickup(B), Stack(B,C), Pickup(A), Stack(A,B))

$B_8 \models I$? Yes!

B_8:

Clear(A)

On(A,B)

On(B,C)

On(C,D)

OnTable(D)

ArmEmpty

I:

Clear(A)

On(A,B)

On(B,C)

On(C,D)

OnTable(D)

ArmEmpty