TP2

gar

Find the optimal solution for the following transportation problem

	D_1	D_2	D_3	D_4	Supply
S_1	1	4	3	1	12
S_2	6	12	11	5	16
S_3	13	5	6	6	4
Demand	10	7	6	9	

Find IBFS

- Using NWCR:

	D_1	D_2	D_3	D_4	Supply
S_1	1 (10)	4 (02)	3	1	12
S_2	6	12 (05)	11 (06)	5 (05)	16
S_3	13	5	6	6 (04)	4
Demand	10	7	6	9	

Iteration 0

Find u_i and v_j

	D_1	D_2	D_3	D_4	Supply	u_i
S_1	1 (10)	4 (02)	3	1	12	-8
S_2	6	12 (05)	11 (06)	5 (05)	16	0
S_3	13	5	6	6 (04)	4	1
Demand	10	7	6	9		
v_j	9	12	11	5		

Iteration 0

Find $c_{ij} - u_i - v_j$

	D_1	D_2	D_3	D_4	Supply	u_i
S_1	1 (10)	4 (02)	3 0	1 4	12	-8
S_2	6 -3	12 (05)	11 (06)	5 (05)	16	0
S_3	13 3	5 -8	6 -6	6 (04)	4	1
Demand	10	7	6	9		
v_j	9	12	11	5		

Iteration 0

	D_1	D_2	D_3	D_4	Supply	u_i
S_1	1 (10)	4 (02)	3 6	1 4	12	-8
S_2	6 -3	12 (05)	11 (06)	5 (05)	16	0
S_3	13 3	5 [+] −8	6 -6	6 (04)	4	1
Demand	10	7	6	9		
v_j	9	12	11	5		

Iteration 1

	D_1	D_2	D_3	D_4	Supply
S_1	1 (10)	4 (02)	3	1	12
S_2	6	12 (01)	11 (06)	5 (09)	16
S_3	13	5 (04)	6	6	4
Demand	10	7	6	9	

Iteration 1

	D_1	D_2	D_3	D_4	Supply	u_i
S_1	1 (10)	4 (02)	3	1	12	-8
S_2	6	12 (01)	11 (06)	5 (09)	16	0
S_3	13	5 (04)	6	6	4	-7
Demand	10	7	6	9		
v_j	9	12	11	5		

Iteration 1

	D_1	D_2	D_3	D_4	Supply	u_i
S_1	1 (10)	4 (02)	3 0	1 4	12	-8
S_2	6 -3	12 (01)	11 (06)	5 (09)	16	0
S_3	13 11	5 (04)	6 2	6 8	4	-7
Demand	10	7	6	9		
v_j	9	12	11	5		

Iteration 1

	D_1	D_2	D_3	D_4	Supply	u_i
S_1	1 (10)	4 (02)	3 0	1 4	12	-8
S_2	6 -3	12 (01)	11 (06)	5 (09)	16	0
S_3	13 11	5 (04)	6 2	6 8	4	-7
Demand	10	7	6	9		
v_j	9	12	11	5		

Iteration 2

	D_1	D_2	D_3	D_4	Supply
S_1	1 (09)	4 (03)	3	1	12
S_2	6 (01)	12	11 (06)	5 (09)	16
S_3	13	5 (04)	6	6	4
Demand	10	7	6	9	

Iteration 2

	D_1	D_2	D_3	D_4	Supply	u_i
S_1	1 (09)	4 (03)	3 -3	1 1	12	-5
S_2	6 (01)	12 3	11 (06)	5 (09)	16	0
S_3	13 11	5 (04)	6 -1	6 5	4	-4
Demand	10	7	6	9		
v_j	6	9	11	5		

Iteration 2

	D_1	D_2	D_3	D_4	Supply	u_i
S_1	1 (09)	4 (03)	3 [+ / − 3]	1 1	12	-5
S_2	6 (01)	12 3	11 (06)	5 (09)	16	0
S_3	13 11	5 (04)	6 -1	6 5	4	-4
Demand	10	7	6	9		
v_j	6	9	11	5		

Iteration 3

	D_1	D_2	D_3	D_4	Supply
S_1	1 (03)	4 (03)	3 (06)	1	12
S_2	6 (07)	12	11	5 (09)	16
S_3	13	5 (04)	6	6	4
Demand	10	7	6	9	