ASSIGNMENT

1. Obtain optimal solution using stepping stone method.

From	To				
	X	Y	Z	W	Supply
I	5	2	4	3	22
II	4	8	1	6	15
III	4	6	7	5	8
Demand	7	12	17	9	

Answer: I to Y: 12, I to Z: 2, I to W: 8, II to Z: 15, III to X: 7, III to W: 1.
Total transportation cost: Rs. 104.

2. Find the optimal solution of the following transportation problem.

From	To			
	A	B	C	Supply
1	8	7	5	500
2	4	3	4	700
3	5	2	9	800
Demand	1000	200	800	

Answer: 1 to C: 500, 2 to A: 400, 2 to C: 300, 3 to A: 600, 3 to B: 200.
Total transportation cost: Rs. 8700.

3. A company has 3 factories and 4 retail outlets. The supply from three factories is 80, 70 and 50 respectively and demand at retail outlets is 40, 40, 60 and 60. Using MODI method decide how many units should be transported to each retail outlet such that total transportation cost is minimum?

Factory	Retail Outlet			
	R1	R2	R3	R4
F1	3	8	7	6
F2	5	4	3	2
F3	3	2	6	3

Answer: F1 to R1: 40, F1 to R4: 40, F2 to R3: 60, F2 to R4: 10, F3 to R2: 40, F3 to R4: 10.
Total transportation cost: 670 Rs.