

MP-1 TUTORIAL-5

1. Develop a python program to demonstrate the Initial Basic Solution in Transportation problem using NW method in Linear Programming (Steppingstone).

QUESTION:

The Amulya Milk Company has three plants located throughout a state with production capacity 50, 75 and 25 gallons. Each day the firm must furnish its four retail shops R_1 , R_2 , R_3 & R_4 with at least 20, 20, 50, and 60 gallons respectively. The transportation costs (in Rs.) are given below.

Plant	Retail Shop				Supply
	R_1	R_2	R_3	R_4	
P_1	3	5	7	6	50
P_2	2	5	8	2	75
P_3	3	6	9	2	25
Demand	20	20	50	60	

The economic problem is to distribute the available product to different retail shops in such a way so that the total transportation cost is minimum.

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prelab

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1. plant Retail Shop

	R_1	R_2	R_3	R_4	supply
P_1	3	5	7	6	50
P_2	2	5	8	2	75
P_3	3	6	9	2	25
Demand	20	20	50	60	150

By using NW Method

20	20	10	0	50
3	5	7	6	20
2	5	8	2	35
3	6	9	2	25
20	20	50	60	
0	0	40	25	
		0		

Minimum Transportation cost =

$$20 \times 3 + 20 \times 5 + 10 \times 7 + 40 \times 8 + 35 \times 2 + 25 \times 2$$

$$60 + 100 + 70 + 320 + 70 + 50$$

670