Department of Computer Science and Engineering
National Institute of Technology Durgapur
Subject: Modelling & Simulation Lab (CSS752)
Assignment 2
Transportation Problem: NWCR and LCM for IBFS

Problem 1

A company has three plants at locations A, B, C which supply to warehouses located at D, E, F, G and H. Monthly plant capacities are 800, 500 and 900 units respectively. Monthly warehouses requirements are 400, 400, 500, 400 and 800 units respectively. Unit transportation costs (in Rs) are given below. Determine an initial basic feasible solution in order to minimize the total transportation cost using NWCR.

	D	E	F	G	H
A	5	8	6	6	3
B	4	7	7	6	5
C	8	4	6	6	4

Problem 2

There are three factories A, B and C, which supply goods to four dealers D1, D2, D3 and D4. The production capacities of these factories are 1000, 700 and 900 units per month respectively. The requirements from the dealers are 900, 800, 500 and 400 units per month respectively. The per unit return (excluding transportation cost) are Rs. 8, Rs. 7 and Rs. 9 at the three factories. The following table gives the unit transportation costs from the factories to the dealers. Determine IBFS to optimize the total returns using LCM.

	D_1	D_2	D_3	D_4
A	2	2	2	4
B	3	5	3	2
C	4	3	2	1