ISS0031 Modeling and Identification

Homework 2

Problems

2.1: Solve transportation problem given by the following table

	D_1	D_2	D_3	D_4	D_5	Reserve
W_1	5	15	3	6	10	9
W_2	23	8	13	27	12	11
W_3	30	1	5	24	25	14
W_4	8	26	7	28	9	16
Requirement	8	9	13	8	12	

2.2: Consider a two-person zero-sum game. The players make moves simultaneously, and each has a choice of actions. There is a payoff matrix that indicates the amount one player gives to the other under each combination of actions:

$$\mathcal{A} = \begin{pmatrix} -5 & 3 & 1 & 8 \\ 5 & 5 & 4 & 6 \\ -4 & 6 & 0 & 5 \end{pmatrix}$$

Find the value of the game and the optimal strategies of the players.