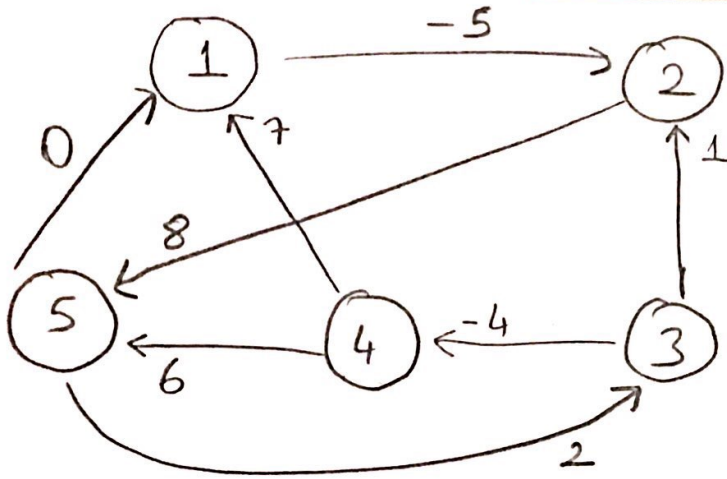


Homework 4



a) $x_i - x_j \leq w(i, j)$

$$x_1 - x_2 \leq -5$$

$$x_2 - x_5 \leq 8$$

$$x_3 - x_2 \leq 1$$

$$x_3 - x_4 \leq -4$$

$$x_4 - x_1 \leq 7$$

$$x_4 - x_5 \leq 6$$

$$x_5 - x_1 \leq 0$$

$$x_5 - x_3 \leq 2$$

b) $x_1 = -5$

$$x_2 = 0$$

$$x_3 = -4$$

$$x_4 = 0$$

$$x_5 = -5$$

$$\hat{w}(i, j) = w(i, j) - x_i + x_j$$

c) $\hat{w}(1, 2) = -5 + 5 + 0 = 0$

$$\hat{w}(2, 5) = 8 - 0 - 5 = 3$$

$$\hat{w}(3, 2) = 1 + 4 + 0 = 5$$

$$\hat{w}(3, 4) = -4 + 4 + 0 = 0$$

0 $\hat{w}(4, 1) = 7 - 0 - 5 = 2$

$$\hat{w}(4, 5) = 6 - 0 - 5 = 1$$

$$\hat{w}(5, 1) = 0 + 5 - 5 = 0$$

$$\hat{w}(5, 3) = 2 + 5 - 4 = 3$$