

**H.W(1):** Find the optimal solution of the following problem:

$$\text{Max } Z = 4x_1 + 4x_2$$

Subject to :

$$-2x_1 + x_2 \leq 1$$

$$x_1 \leq 2$$

$$x_1 + x_2 \leq 3$$

$$x_1, x_2 \geq 0$$

**H.W(2):** Find the optimal solution of the following problem:

$$\text{Max } Z = 3x_1 + 2x_2$$

Subject to :

$$2x_1 - 3x_2 \geq 0$$

$$3x_1 + 4x_2 \leq -12$$

$$x_1, x_2 \geq 0$$

**H.W(3):** Find the optimal solution of the following problem:

$$\text{Min } Z = 200 x_1 + 300 x_2$$

Subject to :

$$0.4x_1 + 0.6x_2 \geq 240$$

$$0.2x_1 + 0.2x_2 \leq 80$$

$$0.4x_1 + 0.3x_2 \geq 180$$

$$x_1, x_2 \geq 0$$

**H.W(4):** Find the optimal solution of the following problem:

$$\text{Min } Z = 120 x_1 + 160 x_2$$

Subject to :

$$0.3x_1 + 0.4x_2 \geq 240$$

$$0.2x_1 + 0.1x_2 \geq 100$$

$$0.5x_1 + 0.3x_2 \geq 290$$

$$x_1, x_2 \geq 0$$