Session 8 Advanced Linear Programming I

Parham Alvani - 98131910

1. 3 Review Problems Problem 51

   - x_i number of transistor that is created from method i
   - y_j number of transistor in the refine process from grade j

   Objective Function:

$$\min \quad 50x_1 + 70x_2 + 25(\sum_{j=0}^{3} y_j)$$

   s.t.

$$y_0 \leq 0.3x_1 + 0.2x_2$$
$$y_1 \leq 0.3x_1 + 0.2x_2$$
$$y_2 \leq 0.2x_1 + 0.25x_2$$
$$y_3 \leq 0.15x_1 + 0.20x_2$$
$$x_1 + x_2 + y_0 + y_1 + y_2 + y_3 \leq 20000$$
$$0.3x_1 + 0.2x_2 - y_1 + 0.25y_0 + 0.3 * y_1 \geq 3000$$
$$0.2x_1 + 0.25x_2 - y_2 + 0.15y_0 + 0.3y_1 + 0.4y_2 \geq 3000$$
$$0.15x_1 + 0.2x_2 - y_3 + 0.2y_0 + 0.2y_1 + 0.3y_2 + 0.5y_3 \geq 2000$$
$$0.05x_1 + 0.15x_2 + 0.1y_0 + 0.2y_1 + 0.3y_2 + 0.5y_3 \geq 1000$$
$$0 \leq x_i \quad \forall i \in 1, 2$$
$$0 \leq y_j \quad \forall j \in 0, 1, 2, 3$$