

TD2

Exercise 1

Use the simplex algorithm to solve the following problems:

Problem 1:

Maximize: $Z = 3x_1 + 2x_2$

Subject to:

$$2x_1 + x_2 \leq 4$$

$$x_1 + 2x_2 \leq 5$$

$$x_1, x_2 \geq 0$$

Problem 2:

Maximize: $Z = 5x_1 + 4x_2$

Subject to:

$$3x_1 + 2x_2 \leq 12$$

$$x_1 + 4x_2 \leq 8$$

$$x_1, x_2 \geq 0$$

Exercise 2

Use the simplex algorithm to solve the wooden toys manufacturing problem.

Exercise 3

Maximize: $Z = 3x_1 + 2x_2 + 4x_3$

Subject to:

$$2x_1 + x_2 + 3x_3 \leq 5$$

$$x_1 + 2x_2 + x_3 \leq 4$$

$$x_1, x_2, x_3 \geq 0$$