AI505 – Optimization

Sheet 06, Spring 2025

Exercises with the symbol $^+$ are to be done at home before the class. Exercises with the symbol * will be tackled in class. The remaining exercises are left for self training after the exercise class. Some exercises are from the text book and the number is reported. They have the solution at the end of the book.

Exercise 1$^+$ (11.1)

Exercise 2$^+$ (11.2)

Exercise 3$^+$ (11.3)

Suppose we want to solve:

$$\text{minimize } 6x_1 + 5x_2$$
$$\text{subject to } 3x_1 - 2x_2 \geq 5.$$

How would we translate this problem into a linear program in equality form with the same minimizer? Solve the problem numerical with the simplex algorithm.

Exercise 4$^+$ (11.4)

Exercise 5$^+$ (11.5)