Simplex Solver

November 9, 2017

Problem

Given the following linear system and objective function, find the optimal solution.

$$\max -x_0 + x_1 \tag{1}$$

$$\begin{cases} x_0 - x_1 = -1 \\ -x_0 + x_1 = -1 \end{cases}$$

Solution

First, add slack and artificial variables to turn all inequalities to equalities.

$$\begin{cases} x_0 - x_1 + x_2 = -1 \\ -x_0 + x_1 + x_3 = -1 \\ -x_0 + x_1 \end{cases}$$