

# **Instituto Tecnológico de Costa Rica**

**Operations Research - Semester II**

## **Knapsack Problem**

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# ASD

Maximize

$$Z = -0.00x_1 + -0.00x_2$$

Subject to

$$\begin{aligned} 1.00x_1 + 0.00x_2 + - &\leq 20.00 \\ 0.00x_1 + 1.00x_2 - + &\leq 20.00 \end{aligned}$$

Simplex Table

|      | Z    | $x_1$ | $x_2$ | $s_0$ | $s_1$ | b      |
|------|------|-------|-------|-------|-------|--------|
| 1.00 | 0.00 | 0.00  | 2.00  | 1.00  |       | 140.00 |
| 0.00 | 1.00 | 0.00  | 2.00  | -1.00 |       | 20.00  |
| 0.00 | 0.00 | 1.00  | -1.00 | 1.00  |       | 20.00  |

## Intermediate Tables

### Results

|  | Z    | $x_1$ | $x_2$ | $s_0$ | $s_1$ | b      |
|--|------|-------|-------|-------|-------|--------|
|  | 1.00 | 0.00  | 0.00  | 2.00  | 1.00  | 140.00 |
|  | 0.00 | 1.00  | 0.00  | 2.00  | -1.00 | 20.00  |
|  | 0.00 | 0.00  | 1.00  | -1.00 | 1.00  | 20.00  |

DESPUES TERMINO ESTO