IE407 - Homework 3

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1 Simplex Method

1.1 Formulation

Decision Variables

$$s = \text{Amount of } \textbf{Sweet Corn} \text{ used in the mix (grams)}$$
$$b = \text{Amount of } \textbf{Barbeque} \text{ used in the mix (grams)}$$

Constraints

$s + b = 100$	Weight of the package
$1.5 \cdot s + 3.5 \cdot b \geq 2.5$	Protein
$400 \cdot s + 600 \cdot b \leq 560$	Calories
$s, b \geq 0$	Non-negativity

Objective Function

$$\text{Minimize Total Cost} = 0.5 \cdot s + 0.7 \cdot b$$

1.2 Solution

2 Software Solution

3 Changing the Constraints

4 Finding the Shadow Price

5 Examining other Shadow Prices