



Escuela de Ingeniería en Computación
Ingeniería en Computación
IC-6400 - Investigación de Operaciones

Project 04

Simplex Report

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Chapter 1

Simplex Description

The simplex algorithm is a very simple algorithm.

Chapter 2

Solving mofongo

2.1 Mathematical representation

Maximize:
$$z = 60,00000abeja + 35,00000babuino + 20,00000coyote \quad (2.1)$$

Subject To:
$$8,00000abeja + 6,00000babuino + 1,00000coyote \leq 48,00000 \quad (2.2)$$

$$4,00000abeja + 2,00000babuino + 1,50000coyote \leq 20,00000 \quad (2.3)$$

$$2,00000abeja + 1,50000babuino + 0,50000coyote \leq 8,00000 \quad (2.4)$$

$$0,00000abeja + 1,00000babuino + 0,00000coyote \leq 5,00000 \quad (2.5)$$

2.2 The initial simplex table

Pivoteo(1)

Z	$abeja$	$babuino$	$coyote$	s_1	s_2	s_3	s_4	B
1,00000	0,00000	10,00000	-5,00000	0,00000	0,00000	30,00000	0,00000	240,00000
0,00000	0,00000	0,00000	-1,00000	1,00000	0,00000	-4,00000	0,00000	16,00000
0,00000	0,00000	-1,00000	0,50000	0,00000	1,00000	-2,00000	0,00000	4,00000
0,00000	1,00000	0,75000	0,25000	0,00000	0,00000	0,50000	0,00000	4,00000
0,00000	0,00000	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	5,00000

Pivoteo(2)

Z	$abeja$	$babuino$	$coyote$	s_1	s_2	s_3	s_4	B
1,00000	0,00000	0,00000	0,00000	0,00000	10,00000	10,00000	0,00000	280,00000
0,00000	0,00000	-2,00000	0,00000	1,00000	2,00000	-8,00000	0,00000	24,00000
0,00000	0,00000	-2,00000	1,00000	0,00000	2,00000	-4,00000	0,00000	8,00000
0,00000	1,00000	1,25000	0,00000	0,00000	-0,50000	1,50000	0,00000	2,00000
0,00000	0,00000	1,00000	0,00000	0,00000	0,00000	0,00000	1,00000	5,00000