

MATH 30210, FALL 2014, HOMEWORK 4 CORRECTIONS TO SOLUTIONS.

4. Problem set 3.6, question 2 (page 99). For these three parts, please DO use LP Assistant. Print out a screenshot of the LP Assistant solution, and in the space below write the solution.

- part (a)

Optimum value of $\frac{3}{2}$ is achieved

$$\text{at } x_1 = 0$$

$$x_2 = \frac{29}{2}$$

$$x_3 = \frac{11}{2}$$

- part (d)

The objective function is not bounded ... it can be made arbitrarily large.

- part (f)

Untitled Problem 1

Mode: Edit Pivot Algorithm Simplex Dual Simplex Display 1/2 1.0 1.00 1.000 Ratio

Basis	X1	X2	X3	X4	X5	RHS
X4	3	2	-4	1	0	7
X5	1	-1	3	0	1	2
	2	2	-5	0	0	0
	-4	-1	1	0	0	-9
X4	0	6	-13	1	-3	1
X1	1	-1	3	0	1	2
	0	4	-11	0	-2	-4
	0	-5	13	0	4	-1
X2	0	1	-13/6	1/6	-3/6	1/6
X1	1	0	2/6	1/6	2/6	11/6
	0	0	3/6	4/6	5/6	29/6
	0	0	0	1	1	0
X2	13/2	1	0	3/2	2	29/2
X5	5/2	0	1	1/2	1	11/2
	3/2	0	0	-1/2	1	9/2
	0	0	0	1	1	0

H4, Q4, part (a)

Untitled Problem 2

Tableau

Mode

Edit
 Primal
 Algorithm
 Simplex
 Dual Simplex
 Display
 1/2
 1.0
 1.00
 1.000
 Ratio

Basis	X1	X2	X3	X4	X5	X6	RHS
X3	1	-1	1	0	0	0	3
X4	2	-1	0	1	0	0	0
X6	1	1	0	0	-1	1	12
	-3	1	0	0	0	0	0
	-1	-1	0	0	1	0	-12
X3	2	0	1	0	-1	1	15
X4	3	0	0	1	-1	1	12
X2	1	1	0	0	-1	1	12
	-4	0	0	0	1	-1	-12
	0	0	0	0	0	1	0
X3	0	0	1	$-\frac{2}{3}$	$-\frac{1}{3}$	$\frac{1}{3}$	7
X4	1	0	0	$\frac{1}{3}$	$-\frac{1}{3}$	$\frac{1}{3}$	4
X2	0	1	0	$-\frac{1}{3}$	$-\frac{2}{3}$	$\frac{2}{3}$	8
	0	0	0	$\frac{4}{3}$	$-\frac{1}{3}$	$\frac{1}{3}$	4
	0	0	0	0	0	1	0

H4, Q4 part (d)