Tuesday, August 24, 2021 19:06

LINEAR PROGRAM -- ORIGINAL DATA

Title: Knox Production-Mix Selection Problem

	x1	x2	x3	x4		
	x1	x2	x3	x4		
Maximize	4.00	5.00	9.00	11.00		
Subject to						
(1)	1.00	1.00	1.00	1.00	<=	15.00
(2)	7.00	5.00	3.00	2.00	<=	120.00
(3)	3.00	5.00	10.00	15.00	<=	100.00
Lower Bound	0.00	0.00	0.00	0.00		
Upper Bound	infinity	infinity	infinity	infinity		
Unrestr'd (y/n)?	n	n	n	n		

SIMPLEX TABLEAUS -- (Starting All-Slack Method)

Title: Knox Production-Mix Selection Problem

Iteration 1	x1	x2	x3	x4		
Basic	x1	x2	x3	x4	sx5	sx6
z (max)	-4.00	-5.00	-9.00	-11.00	0.00	0.00
sx5	1.00	1.00	1.00	1.00	1.00	0.00
sx6	7.00	5.00	3.00	2.00	0.00	1.00
sx7	3.00	5.00	10.00	15.00	0.00	0.00
Lower Bound	0.00	0.00	0.00	0.00		
Upper Bound	infinity	infinity	infinity	infinity		
Unrestr'd (y/n)?	n	n	n	n		

Basic	sx7	Solution
z (max)	0.00	0.00
sx5	0.00	15.00
sx6	0.00	120.00
sx7	1.00	100.00

Iteration 2	x1	x2	x3	x4		
Basic	x1	x2	x3	x4	sx5	sx6
z (max)	-1.80	-1.33	-1.67	0.00	0.00	0.00
sx5	0.80	0.67	0.33	0.00	1.00	0.00
sx6	6.60	4.33	1.67	0.00	0.00	1.00
x4	0.20	0.33	0.67	1.00	0.00	0.00
Lower Bound	0.00	0.00	0.00	0.00		
Upper Bound	infinity	infinity	infinity	infinity		
Unrestr'd (y/n)?	n	n	n	n		

Basic	sx7	Solution
z (max)	0.73	73.33
sx5	-0.07	8.33
sx6	-0.13	106.67
x4	0.07	6.67

Iteration 3	x1	x2	x3	x4		
Basic	x1	x2	x3	x4	sx5	sx6
z (max)	0.00	0.17	-0.92	0.00	2.25	0.00
x1	1.00	0.83	0.42	0.00	1.25	0.00
sx6	0.00	-1.17	-1.08	0.00	-8.25	1.00
x4	0.00	0.17	0.58	1.00	-0.25	0.00
Lower Bound	0.00	0.00	0.00	0.00		
Upper Bound	infinity	infinity	infinity	infinity		
Unrestr'd (y/n)?	n	n	n	n		

Basic	sx7	Solution
z (max)	0.58	92.08
x1	-0.08	10.42
sx6	0.42	37.92
x4	0.08	4.58

Iteration 4	x1	x2	x3	x4		
Basic	x1	x2	x3	x4	sx5	sx6
z (max)	0.00	0.43	0.00	1.57	1.86	0.00
x1	1.00	0.71	0.00	-0.71	1.43	0.00
sx6	0.00	-0.86	0.00	1.86	-8.71	1.00
x3	0.00	0.29	1.00	1.71	-0.43	0.00
Lower Bound	0.00	0.00	0.00	0.00		
Upper Bound	infinity	infinity	infinity	infinity		
Unrestr'd (y/n)?	n	n	n	n		

Basic	sx7	Solution
z (max)	0.71	99.29
x1	-0.14	7.14
sx6	0.57	46.43
x3	0.14	7.86