Read in the following dictionary:

x_9	10.0	$+3.00x_1$	$-6.00x_2$	$+9.00x_3$	$-3.00x_4$	$-4.00x_5$	$+3.00x_6$	$-5.00x_7$ $+6.00x_8$
x_{10}	6.0	$+8.00x_1$	$+2.00x_2$	$+7.00x_3$	$-1.00x_4$	$-9.00x_5$		$-1.00x_7$ $-5.00x_8$
x_{11}	4.0	$+9.00x_1$	$+4.00x_2$	$-7.00x_3$	$-2.00x_4$	$-6.00x_5$	$-1.00x_6$	$+9.00x_7$ $+5.00x_8$
x_{12}	16.0	$-6.00x_1$	$+8.00x_2$	$-2.00x_3$	$-7.00x_4$	$+10.00x_5$	$+1.00x_6$	$+7.00x_7$ $-9.00x_8$
x_{13}	-3.0	$-4.00x_1$	$-8.00x_2$	$+9.00x_3$	$+4.00x_4$	$+3.00x_5$	$+10.00x_6$	$+5.00x_7$ $-8.00x_8$
z	0.0	$+1.00x_1$	$-1.00x_2$	$-5.00x_3$	$-2.00x_4$	$-3.00x_5$	$-3.00x_6$	$-3.00x_8$

0.1 Initialization Phase: Dual Problem Solving

New Objective in primal was changed to :

$$\max \sum_{j=1}^{8} -x_j$$

Primal variable x_j corresponds to dual variable y_j for $j = 1, \ldots, 13$ Dual Dictionary (with objective changed is):

y_1	1.0	$-3.00y_9$	$-8.00y_{10}$	$-9.00y_{11}$	$+6.00y_{12}$	$+4.00y_{13}$
y_2	1.0	$+6.00y_9$	$-2.00y_{10}$	$-4.00y_{11}$	$-8.00y_{12}$	$+8.00y_{13}$
y_3	1.0	$-9.00y_9$	$-7.00y_{10}$	$+7.00y_{11}$	$+2.00y_{12}$	$-9.00y_{13}$
y_4	1.0	$+3.00y_9$	$+1.00y_{10}$	$+2.00y_{11}$	$+7.00y_{12}$	$-4.00y_{13}$
y_5	1.0	$+4.00y_9$	$+9.00y_{10}$	$+6.00y_{11}$	$-10.00y_{12}$	$-3.00y_{13}$
y_6	1.0	$-3.00y_9$		$+1.00y_{11}$	$-1.00y_{12}$	$-10.00y_{13}$
y_7	1.0	$+5.00y_9$	$+1.00y_{10}$	$-9.00y_{11}$	$-7.00y_{12}$	$-5.00y_{13}$
y_8	1.0	$-6.00y_9$	$+5.00y_{10}$	$-5.00y_{11}$	$+9.00y_{12}$	$+8.00y_{13}$
z	-0	$-10.00y_9$	$-6.00y_{10}$	$-4.00y_{11}$	$-16.00y_{12}$	$+3.00y_{13}$

Initialization succeeded in finding final dual dictionary with 2 pivots

y_1	1.4	$-4.20y_9$	$-8.00y_{10}$	$-8.60y_{11}$	$+5.60y_{12}$	$-0.40y_6$
y_2	1.8	$+3.60y_9$	$-2.00y_{10}$	$-3.20y_{11}$	$-8.80y_{12}$	$-0.80y_6$
y_3	0.1	$-6.30y_9$	$-7.00y_{10}$	$+6.10y_{11}$	$+2.90y_{12}$	$+0.90y_6$
y_4	0.6	$+4.20y_9$	$+1.00y_{10}$	$+1.60y_{11}$	$+7.40y_{12}$	$+0.40y_6$
y_5	0.7	$+4.90y_9$	$+9.00y_{10}$	$+5.70y_{11}$	$-9.70y_{12}$	$+0.30y_6$
y_{13}	0.1	$-0.30y_9$		$+0.10y_{11}$	$-0.10y_{12}$	$-0.10y_6$
y_7	0.5	$+6.50y_9$	$+1.00y_{10}$	$-9.50y_{11}$	$-6.50y_{12}$	$+0.50y_6$
y_8	1.8	$-8.40y_9$	$+5.00y_{10}$	$-4.20y_{11}$	$+8.20y_{12}$	$-0.80y_6$
z	0.3	$-10.90y_9$	$-6.00y_{10}$	$-3.70y_{11}$	$-16.30y_{12}$	$-0.30y_6$

Primal Dictionary is:

x_9	10.9	$+4.20x_1$	$-3.60x_2$	$+6.30x_3$	$-4.20x_4$	$-4.90x_5$	$+0.30x_{13}$	$-6.50x_7$ $+8.40x_8$
x_{10}	6.0	$+8.00x_1$	$+2.00x_2$	$+7.00x_3$	$-1.00x_4$	$-9.00x_5$		$-1.00x_7$ $-5.00x_8$
x_{11}	3.7	$+8.60x_1$	$+3.20x_2$	$-6.10x_3$	$-1.60x_4$	$-5.70x_5$	$-0.10x_{13}$	$+9.50x_7$ $+4.20x_8$
x_{12}	16.3	$-5.60x_1$	$+8.80x_2$	$-2.90x_3$	$-7.40x_4$	$+9.70x_5$	$+0.10x_{13}$	$+6.50x_7$ $-8.20x_8$
x_6	0.3	$+0.40x_1$	$+0.80x_2$	$-0.90x_3$	$-0.40x_4$	$-0.30x_5$	$+0.10x_{13}$	$-0.50x_7$ $+0.80x_8$
z	-0.3	$-1.40x_1$	$-1.80x_2$	$-0.10x_3$	$-0.60x_4$	$-0.70x_5$	$-0.10x_{13}$	$-0.50x_7$ $-1.80x_8$

Primal Dictionary with original objective is:

x_9	10.9	$+4.20x_1$	$-3.60x_2$	$+6.30x_3$	$-4.20x_4$	$-4.90x_5$	$+0.30x_{13}$	$-6.50x_7$	$+8.40x_8$
x_{10}	6.0	$+8.00x_1$	$+2.00x_2$	$+7.00x_3$	$-1.00x_4$	$-9.00x_5$		$-1.00x_7$	$-5.00x_8$
x_{11}	3.7	$+8.60x_1$	$+3.20x_2$	$-6.10x_3$	$-1.60x_4$	$-5.70x_5$	$-0.10x_{13}$	$+9.50x_7$	$+4.20x_8$
x_{12}	16.3	$-5.60x_1$	$+8.80x_2$	$-2.90x_3$	$-7.40x_4$	$+9.70x_5$	$+0.10x_{13}$	$+6.50x_7$	$-8.20x_8$
x_6	0.3	$+0.40x_1$	$+0.80x_2$	$-0.90x_3$	$-0.40x_4$	$-0.30x_5$	$+0.10x_{13}$	$-0.50x_7$	$+0.80x_8$
z	-0.9	$-0.20x_1$	$-3.40x_2$	$-2.30x_3$	$-0.80x_4$	$-2.10x_5$	$-0.30x_{13}$	$+1.50x_7$	$-5.40x_8$

1 Optimization Phase Simplex

Starting Dictionary is:

x_9	10.9	$+4.20x_1$	$-3.60x_2$	$+6.30x_3$	$-4.20x_4$	$-4.90x_5$	$+0.30x_{13}$	$-6.50x_7$	$+8.40x_8$
x_{10}	6.0	$+8.00x_1$	$+2.00x_2$	$+7.00x_3$	$-1.00x_4$	$-9.00x_5$		$-1.00x_7$	$-5.00x_8$
x_{11}	3.7	$+8.60x_1$	$+3.20x_2$	$-6.10x_3$	$-1.60x_4$	$-5.70x_5$	$-0.10x_{13}$	$+9.50x_7$	$+4.20x_8$
x_{12}	16.3	$-5.60x_1$	$+8.80x_2$	$-2.90x_3$	$-7.40x_4$	$+9.70x_5$	$+0.10x_{13}$	$+6.50x_7$	$-8.20x_8$
x_6	0.3	$+0.40x_1$	$+0.80x_2$	$-0.90x_3$	$-0.40x_4$	$-0.30x_5$	$+0.10x_{13}$	$-0.50x_7$	$+0.80x_8$
z	-0.9	$-0.20x_1$	$-3.40x_2$	$-2.30x_3$	$-0.80x_4$	$-2.10x_5$	$-0.30x_{13}$	$+1.50x_7$	$-5.40x_8$

x_7 enters and x_6 leaves

x_9	7.0	$-1.00x_1$	$-14.00x_2$	$+18.00x_3$	$+1.00x_4$	$-1.00x_5$	$-1.00x_{13}$	$+13.00x_6$	$-2.00x_8$
x_{10}	5.4	$+7.20x_1$	$+0.40x_2$	$+8.80x_3$	$-0.20x_4$	$-8.40x_5$	$-0.20x_{13}$	$+2.00x_6$	$-6.60x_8$
x_{11}	9.4	$+16.20x_1$	$+18.40x_2$	$-23.20x_3$	$-9.20x_4$	$-11.40x_5$	$+1.80x_{13}$	$-19.00x_6$	$+19.40x_8$
x_{12}	20.2	$-0.40x_1$	$+19.20x_2$	$-14.60x_3$	$-12.60x_4$	$+5.80x_5$	$+1.40x_{13}$	$-13.00x_6$	$+2.20x_8$
x_7	0.6	$+0.80x_1$	$+1.60x_2$	$-1.80x_3$	$-0.80x_4$	$-0.60x_5$	$+0.20x_{13}$	$-2.00x_6$	$+1.60x_8$
z	0.0	$+1.00x_1$	$-1.00x_2$	$-5.00x_3$	$-2.00x_4$	$-3.00x_5$		$-3.00x_6$	$-3.00x_8$

x_1 enters and x_9 leaves

x_1	7.0	$-1.00x_9$	$-14.00x_2$	$+18.00x_3$	$+1.00x_4$	$-1.00x_5$	$-1.00x_{13}$	$+13.00x_6$	$-2.00x_8$
x_{10}	55.8	$-7.20x_9$	$-100.40x_2$	$+138.40x_3$	$+7.00x_4$	$-15.60x_5$	$-7.40x_{13}$	$+95.60x_6$	$-21.00x_8$
x_{11}	122.8	$-16.20x_9$	$-208.40x_2$	$+268.40x_3$	$+7.00x_4$	$-27.60x_5$	$-14.40x_{13}$	$+191.60x_6$	$-13.00x_8$
x_{12}	17.4	$+0.40x_9$	$+24.80x_2$	$-21.80x_3$	$-13.00x_4$	$+6.20x_5$	$+1.80x_{13}$	$-18.20x_6$	$+3.00x_8$
x_7	6.2	$-0.80x_9$	$-9.60x_2$	$+12.60x_3$		$-1.40x_5$	$-0.60x_{13}$	$+8.40x_6$	
z	7.0	$-1.00x_9$	$-15.00x_2$	$+13.00x_3$	$-1.00x_4$	$-4.00x_5$	$-1.00x_{13}$	$+10.00x_6$	$-5.00x_8$

x_3 enters and x_{12} leaves

x_1	21.3669724771	$-0.67x_9$	$+6.48x_2$	$-0.83x_{12}$	$-9.73x_4$	$+4.12x_5$	$+0.49x_{13}$	$-2.03x_6$	$+0.48x_8$
x_{10}	166.266055046	$-4.66x_9$	$+57.05x_2$	$-6.35x_{12}$	$-75.53x_4$	$+23.76x_5$	$+4.03x_{13}$	$-19.94x_6$	$-1.95x_8$
x_{11}	337.027522936	$-11.28x_9$	$+96.94x_2$	$-12.31x_{12}$	$-153.06x_4$	$+48.73x_5$	$+7.76x_{13}$	$-32.48x_6$	$+23.94x_8$
x_3	0.798165137615	$+0.02x_9$	$+1.14x_2$	$-0.05x_{12}$	$-0.60x_4$	$+0.28x_5$	$+0.08x_{13}$	$-0.83x_6$	$+0.14x_8$
x_7	16.2568807339	$-0.57x_9$	$+4.73x_2$	$-0.58x_{12}$	$-7.51x_4$	$+2.18x_5$	$+0.44x_{13}$	$-2.12x_6$	$+1.73x_8$
z	17.376146789	$-0.76x_9$	$-0.21x_2$	$-0.60x_{12}$	$-8.75x_4$	$-0.30x_5$	$+0.07x_{13}$	$-0.85x_6$	$-3.21x_8$

x_{13} enters and Unbounded Dictionary!
x_{13} enters and Unbounded Dictionary!