Read in the following dictionary:

x_6	-1.0	$-10.00x_1$	$-3.00x_2$	$+4.00x_3$	$+6.00x_4$	$-1.00x_5$
x_7	31.0	$-2.00x_1$	$-9.00x_2$	$+3.00x_3$	$-4.00x_4$	$-4.00x_5$
x_8	-15.0	$+8.00x_1$	$+5.00x_2$	$+5.00x_3$	$+3.00x_4$	$+5.00x_5$
x_9	29.0	$-4.00x_1$	$-2.00x_2$	$-5.00x_3$	$+1.00x_4$	$-4.00x_5$
x_{10}	26.0	$+1.00x_1$	$-2.00x_2$	$-1.00x_3$		$-8.00x_5$
x_{11}	-3.0	$-1.00x_1$	$+6.00x_2$	$+5.00x_3$	$+10.00x_4$	$-4.00x_5$
x_{12}	18.0	$+2.00x_1$	$+1.00x_2$	$-4.00x_3$	$+2.00x_4$	$-5.00x_5$
z	0.0	$+4.00x_1$	$-3.00x_2$	$-5.00x_3$	$-4.00x_4$	$+1.00x_5$

0.1 Initialization Phase: Dual Problem Solving

New Objective in primal was changed to :

$$\max \sum_{j=1}^{5} -x_j$$

Primal variable x_j corresponds to dual variable y_j for $j = 1, \ldots, 12$ Dual Dictionary (with objective changed is):

y_1	1.0	$+10.00y_6$	$+2.00y_7$	$-8.00y_8$	$+4.00y_9$	$-1.00y_{10}$	$+1.00y_{11}$	$-2.00y_{12}$
y_2	1.0	$+3.00y_6$	$+9.00y_7$	$-5.00y_8$	$+2.00y_9$	$+2.00y_{10}$	$-6.00y_{11}$	$-1.00y_{12}$
y_3	1.0	$-4.00y_6$	$-3.00y_7$	$-5.00y_8$	$+5.00y_9$	$+1.00y_{10}$	$-5.00y_{11}$	$+4.00y_{12}$
y_4	1.0	$-6.00y_6$	$+4.00y_7$	$-3.00y_8$	$-1.00y_9$		$-10.00y_{11}$	$-2.00y_{12}$
y_5	1.0	$+1.00y_6$	$+4.00y_7$	$-5.00y_8$	$+4.00y_9$	$+8.00y_{10}$	$+4.00y_{11}$	$+5.00y_{12}$
z	-0	$+1.00y_6$	$-31.00y_7$	$+15.00y_8$	$-29.00y_9$	$-26.00y_{10}$	$+3.00y_{11}$	$-18.00y_{12}$

Initialization succeeded in finding final dual dictionary with 4 pivots

y_4	0.268292682927	$-0.22y_1$	$+7.29y_7$	$+0.95y_3$	$-4.88y_9$	$-1.17y_{10}$	$-5.02y_{11}$	$-6.24y_{12}$
y_2	0.256097560976	$+0.43y_1$	$+9.10y_7$	$+0.32y_3$	$-1.29y_9$	$+2.11y_{10}$	$-4.84y_{11}$	$-1.41y_{12}$
y_8	0.170731707317	$-0.05y_1$	$-0.27y_7$	$-0.12y_3$	$+0.80y_9$	$+0.07y_{10}$	$-0.56y_{11}$	$+0.39y_{12}$
y_6	0.0365853658537	$+0.06y_1$	$-0.41y_7$	$-0.10y_3$	$+0.24y_9$	$+0.16y_{10}$	$-0.55y_{11}$	$+0.51y_{12}$
y_5	0.182926829268	$+0.30y_1$	$+4.93y_7$	$+0.51y_3$	$+0.22y_9$	$+7.79y_{10}$	$+6.26y_{11}$	$+3.56y_{12}$
z	2.59756097561	$-0.67y_1$	$-35.44y_7$	$-1.93y_3$	$-16.68y_9$	$-24.74y_{10}$	$-5.96y_{11}$	$-11.63y_{12}$

Primal Dictionary is:

x_1	0.670731707317	$+0.22x_4$	$-0.43x_2$	$+0.05x_8$	$-0.06x_6$	$-0.30x_5$
x_7	35.4390243902	$-7.29x_4$	$-9.10x_2$	$+0.27x_8$	$+0.41x_6$	$-4.93x_5$
x_3	1.92682926829	$-0.95x_4$	$-0.32x_2$	$+0.12x_8$	$+0.10x_6$	$-0.51x_5$
x_9	16.6829268293	$+4.88x_4$	$+1.29x_2$	$-0.80x_8$	$-0.24x_6$	$-0.22x_5$
x_{10}	24.743902439	$+1.17x_4$	$-2.11x_2$	$-0.07x_8$	$-0.16x_6$	$-7.79x_5$
x_{11}	5.96341463415	$+5.02x_4$	$+4.84x_2$	$+0.56x_8$	$+0.55x_6$	$-6.26x_5$
x_{12}	11.6341463415	$+6.24x_4$	$+1.41x_2$	$-0.39x_8$	$-0.51x_6$	$-3.56x_5$
z	-2.59756097561	$-0.27x_4$	$-0.26x_2$	$-0.17x_8$	$-0.04x_6$	$-0.18x_5$

Primal Dictionary with original objective is:

x_1	0.670731707317	$+0.22x_4 -0.43x_2 +0.05x_8 -0.06x_6 -0.30x_5$
x_7	35.4390243902	$-7.29x_4 -9.10x_2 +0.27x_8 +0.41x_6 -4.93x_5$
x_3	1.92682926829	$-0.95x_4 -0.32x_2 +0.12x_8 +0.10x_6 -0.51x_5$
x_9	16.6829268293	$+4.88x_4 +1.29x_2 -0.80x_8 -0.24x_6 -0.22x_5$
x_{10}	24.743902439	$+1.17x_4 -2.11x_2 -0.07x_8 -0.16x_6 -7.79x_5$
x_{11}	5.96341463415	$+5.02x_4 +4.84x_2 +0.56x_8 +0.55x_6 -6.26x_5$
x_{12}	11.6341463415	$+6.24x_4 +1.41x_2 -0.39x_8 -0.51x_6 -3.56x_5$
z	-6.9512195122	$+1.63x_4 -3.12x_2 -0.41x_8 -0.73x_6 +2.34x_5$

1 Optimization Phase Simplex

Starting Dictionary is:

x_1	0.670731707317	$+0.22x_4 -0.43x_2 +0.05x_8 -0.06x_6 -0.30x_5$
x_7	35.4390243902	$-7.29x_4 -9.10x_2 +0.27x_8 +0.41x_6 -4.93x_5$
x_3	1.92682926829	$-0.95x_4 -0.32x_2 +0.12x_8 +0.10x_6 -0.51x_5$
x_9	16.6829268293	$+4.88x_4 +1.29x_2 -0.80x_8 -0.24x_6 -0.22x_5$
x_{10}	24.743902439	$+1.17x_4 -2.11x_2 -0.07x_8 -0.16x_6 -7.79x_5$
x_{11}	5.96341463415	$+5.02x_4 +4.84x_2 +0.56x_8 +0.55x_6 -6.26x_5$
x_{12}	11.6341463415	$+6.24x_4 +1.41x_2 -0.39x_8 -0.51x_6 -3.56x_5$
z	-6.9512195122	$+1.63x_4 -3.12x_2 -0.41x_8 -0.73x_6 +2.34x_5$

x_4 enters and x_3 leaves

x_1	1.11538461538	$-0.23x_3 -0.50x_2 +0.08x_8 -0.04x_6 -0.42x_5$
x_7	20.6666666667	$+7.67x_3 -6.67x_2 -0.67x_8 -0.33x_6 -1.00x_5$
x_4	2.02564102564	$-1.05x_3 -0.33x_2 +0.13x_8 +0.10x_6 -0.54x_5$
x_9	26.5641025641	$-5.13x_3 -0.33x_2 -0.18x_8 +0.26x_6 -2.85x_5$
x_{10}	27.1153846154	$-1.23x_3 -2.50x_2 +0.08x_8 -0.04x_6 -8.42x_5$
x_{11}	16.141025641	$-5.28x_3 +3.17x_2 +1.21x_8 +1.06x_6 -8.96x_5$
x_{12}	24.2820512821	$-6.56x_3 -0.67x_2 +0.41x_8 +0.13x_6 -6.92x_5$
z	-3.64102564103	$-1.72x_3 -3.67x_2 -0.21x_8 -0.56x_6 +1.46x_5$

x_5 enters and x_{11} leaves

x_1	0.353361945637	$+0.02x_3 -0.65x_2 +0.02x_8 -0.09x_6 +0.05x_{11}$
x_7	18.8655221745	$+8.26x_3 -7.02x_2 -0.80x_8 -0.45x_6 +0.11x_{11}$
x_4	1.05579399142	$-0.73x_3 -0.52x_2 +0.06x_8 +0.04x_6 +0.06x_{11}$
x_9	21.4377682403	$-3.45x_3 -1.34x_2 -0.56x_8 -0.08x_6 +0.32x_{11}$
x_{10}	11.9442060086	$+3.73x_3 -5.48x_2 -1.06x_8 -1.04x_6 +0.94x_{11}$
x_5	1.80114449213	$-0.59x_3 +0.35x_2 +0.13x_8 +0.12x_6 -0.11x_{11}$
x_{12}	11.8125894134	$-2.48x_3 -3.11x_2 -0.52x_8 -0.69x_6 +0.77x_{11}$
z	-1.00858369099	$-2.58x_3 -3.15x_2 -0.01x_8 -0.39x_6 -0.16x_{11}$

Final Dictionary Solution: -1.00858369099 Num Pivots: 3