Initial Dictionary

x_4	10.0	$-1.00x_1$		
x_5	10.0		$-1.00x_2$	
x_6	10.0			$-1.00x_3$
x_7	1.0	$+2.00x_1$	$-7.00x_2$	
x_8	3.0	$-1.00x_1$	$+2.00x_2$	$-5.00x_3$
x_9	7.0	$-1.00x_1$	$-1.00x_2$	$+3.00x_3$
z	0.0	$+1.00x_1$	$+1.00x_2$	$-5.00x_3$

No initialization required –¿ Proceed to Optimize.

x_1 enters and x_8 leaves

x_4	7.0	$+1.00x_8$	$-2.00x_2$	$+5.00x_3$
x_5	10.0		$-1.00x_2$	
x_6	10.0			$-1.00x_3$
x_7	7.0	$-2.00x_8$	$-3.00x_2$	$-10.00x_3$
x_1	3.0	$-1.00x_8$	$+2.00x_2$	$-5.00x_3$
x_9	4.0	$+1.00x_8$	$-3.00x_2$	$+8.00x_3$
z	3.0	$-1.00x_8$	$+3.00x_2$	$-10.00x_3$

x_2 enters and x_9 leaves

x_4	4.33333333333	$+0.33x_8$	$+0.67x_9$	$-0.33x_3$
x_5	8.66666666667	$-0.33x_8$	$+0.33x_9$	$-2.67x_3$
x_6	10.0			$-1.00x_3$
x_7	3.0	$-3.00x_8$	$+1.00x_9$	$-18.00x_3$
x_1	5.66666666667	$-0.33x_8$	$-0.67x_9$	$+0.33x_3$
x_2	1.33333333333	$+0.33x_8$	$-0.33x_9$	$+2.67x_3$
z	7.0		$-1.00x_9$	$-2.00x_3$

Final Dictionary Final dictionary after first LP relaxation solve:

x_4	4.33333333333	$+0.33x_8$	$+0.67x_9$	$-0.33x_3$
x_5	8.66666666667	$-0.33x_8$	$+0.33x_9$	$-2.67x_3$
x_6	10.0			$-1.00x_3$
x_7	3.0	$-3.00x_8$	$+1.00x_9$	$-18.00x_3$
x_1	5.66666666667	$-0.33x_8$	$-0.67x_9$	$+0.33x_3$
x_2	1.33333333333	$+0.33x_8$	$-0.33x_9$	$+2.67x_3$
z	7.0		$-1.00x_9$	$-2.00x_3$

After cutting plane is added

x_4	4.33333333333	$+0.33x_8 +0.67x_9 -0.33x_3$
x_5	8.66666666667	$-0.33x_8 +0.33x_9 -2.67x_3$
x_6	10.0	$-1.00x_3$
x_7	3.0	$-3.00x_8 +1.00x_9 -18.00x_3$
x_1	5.66666666667	$-0.33x_8 -0.67x_9 +0.33x_3$
x_2	1.33333333333	$+0.33x_8 -0.33x_9 +2.67x_3$
x_{10}	-0.333333333333	$+0.67x_8 +0.33x_9 +0.33x_3$
x_{11}	-0.666666666667	$+0.33x_8 +0.67x_9 +0.67x_3$
x_{12}	-0.666666666667	$+0.33x_8 +0.67x_9 +0.67x_3$
x_{13}	-0.333333333333	$+0.67x_8 +0.33x_9 +0.33x_3$
z	7.0	$-1.00x_9 -2.00x_3$

Forming the dual dictionary:

The Final Dual Dictionary is:

Final primal dictionary obtained:

x_4	5.0	$+1.00x_{11} -0.00x_7 -1.00x_3$
x_5	8.42857142857	$+0.29x_{11} +0.14x_7 -0.29x_3$
x_6	10.0	$-1.00x_3$
x_9	0.428571428571	$+1.29x_{11} +0.14x_7 +1.71x_3$
x_1	5.0	$-1.00x_{11} +0.00x_7 +1.00x_3$
x_2	1.57142857143	$-0.29x_{11} -0.14x_7 +0.29x_3$
x_8	1.14285714286	$+0.43x_{11} -0.29x_7 -5.43x_3$
x_{10}	0.571428571429	$+0.71x_{11} -0.14x_7 -2.71x_3$
x_{12}	$1.58603289232e-17$	$+1.00x_{11} -0.00x_7 -0.00x_3$
x_{13}	0.571428571429	$+0.71x_{11} -0.14x_7 -2.71x_3$
z	6.57142857143	$-1.29x_{11} -0.14x_7 -3.71x_3$

After cutting plane is added

x_4	5.0	$+1.00x_{11} -0.00x_7 -1.00x_3$
x_5	8.42857142857	$+0.29x_{11} +0.14x_7 -0.29x_3$
x_6	10.0	$-1.00x_3$
x_9	0.428571428571	$+1.29x_{11} +0.14x_7 +1.71x_3$
x_1	5.0	$-1.00x_{11} +0.00x_7 +1.00x_3$
x_2	1.57142857143	$-0.29x_{11} -0.14x_7 +0.29x_3$
x_8	1.14285714286	$+0.43x_{11} -0.29x_7 -5.43x_3$
x_{10}	0.571428571429	$+0.71x_{11} -0.14x_7 -2.71x_3$
x_{12}	$1.58603289232e-17$	$+1.00x_{11} -0.00x_7 -0.00x_3$
x_{13}	0.571428571429	$+0.71x_{11} -0.14x_7 -2.71x_3$
x_{14}	-0.428571428571	$+0.71x_{11} +0.86x_7 +0.29x_3$
x_{15}	-0.428571428571	$+0.71x_{11} +0.86x_7 +0.29x_3$
x_{16}	-0.571428571429	$+0.29x_{11} +0.14x_7 +0.71x_3$
x_{17}	-0.142857142857	$+0.57x_{11} +0.29x_7 +0.43x_3$
x_{18}	-0.571428571429	$+0.29x_{11} +0.14x_7 +0.71x_3$
x_{19}	-0.571428571429	$+0.29x_{11} +0.14x_7 +0.71x_3$
z	6.57142857143	$-1.29x_{11} -0.14x_7 -3.71x_3$

Forming the dual dictionary:

The Final Dual Dictionary is:

Final primal dictionary obtained:

x_4	5.0	$+1.00x_{11} -0.00x_{16} -1.00x_3$
x_5	9.0	$+1.00x_{16} -1.00x_3$
x_6	10.0	$-1.00x_3$
x_9	1.0	$+1.00x_{11} +1.00x_{16} +1.00x_3$
x_1	5.0	$-1.00x_{11} +0.00x_{16} +1.00x_3$
x_2	1.0	$-1.00x_{16} +1.00x_3$
x_8	$-4.4408920985e-16$	$+1.00x_{11} -2.00x_{16} -4.00x_3$
x_{10}	$-1.11022302463e-15$	$+1.00x_{11} -1.00x_{16} -2.00x_3$
x_{12}	$-1.11022302463e-16$	$+1.00x_{11} -0.00x_{16} +0.00x_3$
x_{13}	$-7.77156117238e-16$	$+1.00x_{11} -1.00x_{16} -2.00x_3$
x_7	4.0	$-2.00x_{11} +7.00x_{16} -5.00x_3$
x_{15}	3.0	$-1.00x_{11} +6.00x_{16} -4.00x_3$
x_{14}	3.0	$-1.00x_{11} +6.00x_{16} -4.00x_3$
x_{17}	1.0	$+2.00x_{16} -1.00x_3$
x_{18}	$1.11022302463e-15$	$+1.00x_{16} +0.00x_3$
x_{19}	$7.77156117238e-16$	$+0.00x_{11} +1.00x_{16} +0.00x_3$
z	6.0	$-1.00x_{11} -1.00x_{16} -3.00x_3$

Final answer: 6.000000 Done.Added 10 cuts