

1 Dictionary # 1

$$\begin{array}{c|ccc}
 x_1 & 3 & & -1x_5 - 2x_7 \\
 x_3 & -4 & +1x_2 - 1x_4 & -1x_7 \\
 x_6 & 7 & -1x_2 & -2x_5 \\
 \hline
 z & 1 & -1x_2 + 2x_4 + 3x_5 + 1x_7 &
 \end{array}$$

1.1 Initialization Phase: Aux Problem Solving

$$\begin{array}{c|cccc}
 x_1 & 3 & & -1x_5 - 2x_7 + 1x_0 \\
 x_3 & -4 & +1x_2 - 1x_4 & -1x_7 + 1x_0 \\
 x_6 & 7 & -1x_2 & -2x_5 + 1x_0 \\
 \hline
 z & 0 & & -1x_0
 \end{array}$$

x_3 leaves

$$\begin{array}{c|cccc}
 x_1 & 7 & -1x_2 + 1x_4 - 1x_5 - 1x_7 + 1x_3 \\
 x_0 & 4 & -1x_2 + 1x_4 & +1x_7 + 1x_3 \\
 x_6 & 11 & -2x_2 + 1x_4 - 2x_5 + 1x_7 + 1x_3 \\
 \hline
 z & -4 & +1x_2 - 1x_4 & -1x_7 - 1x_3
 \end{array}$$

x_2 enters and x_0 leaves

$$\begin{array}{c|cccc}
 x_1 & 3 & +1x_0 & -1x_5 - 2x_7 \\
 x_2 & 4 & -1x_0 + 1x_4 & +1x_7 + 1x_3 \\
 x_6 & 3 & +2x_0 - 1x_4 - 2x_5 - 1x_7 - 1x_3 \\
 \hline
 z & 0 & -1x_0 &
 \end{array}$$

Final Dictionary

1.2 Optimization Phase

Problem is feasible Initialization phase yields a zero answer

$$\begin{array}{c|ccc}
 x_1 & 3 & & -1x_5 - 2x_7 \\
 x_2 & 4 & +1x_4 & +1x_7 + 1x_3 \\
 x_6 & 3 & -1x_4 - 2x_5 - 1x_7 - 1x_3 \\
 \hline
 z & -3 & +1x_4 + 3x_5 & -1x_3
 \end{array}$$

2 Dictionary # 2

$$\begin{array}{c|cc} x_3 & -1 & +1x_1 - 1x_2 \\ x_4 & -2 & +1x_1 + 2x_2 \\ x_5 & 1 & -1x_2 \\ \hline z & 0 & -2x_1 - 1x_2 \end{array}$$

2.1 Initialization Phase: Aux Problem Solving

$$\begin{array}{c|cc} x_3 & -1 & +1x_1 - 1x_2 + 1x_0 \\ x_4 & -2 & +1x_1 + 2x_2 + 1x_0 \\ x_5 & 1 & -1x_2 + 1x_0 \\ \hline z & 0 & -1x_0 \end{array}$$

x_4 leaves

$$\begin{array}{c|cc} x_3 & 1 & -3x_2 + 1x_4 \\ x_0 & 2 & -1x_1 - 2x_2 + 1x_4 \\ x_5 & 3 & -1x_1 - 3x_2 + 1x_4 \\ \hline z & -2 & +1x_1 + 2x_2 - 1x_4 \end{array}$$

x_1 enters and x_0 leaves

$$\begin{array}{c|cc} x_3 & 1 & -3x_2 + 1x_4 \\ x_1 & 2 & -1x_0 - 2x_2 + 1x_4 \\ x_5 & 1 & +1x_0 - 1x_2 \\ \hline z & 0 & -1x_0 \end{array}$$

Final Dictionary

2.2 Optimization Phase

Problem is feasible Initialization phase yields a zero answer

$$\begin{array}{c|cc} x_3 & 1 & -3x_2 + 1x_4 \\ x_1 & 2 & -2x_2 + 1x_4 \\ x_5 & 1 & -1x_2 \\ \hline z & -4 & +3x_2 - 2x_4 \end{array}$$

3 Dictionary # 3

x_4	10	$-1x_1$	$+1x_3$
x_5	12	$+1x_2$	$-1x_3$
x_6	14	$+1x_1$	$-1x_2-1x_3$
x_7	-40		$+1x_3$
x_8	-25	$+1x_2$	
x_9	-15	$+1x_1$	
z	0	$+2x_1-3x_2+1x_3$	

3.1 Initialization Phase: Aux Problem Solving

x_4	10	$-1x_1$	$+1x_3+1x_0$
x_5	12	$+1x_2-1x_3+1x_0$	
x_6	14	$+1x_1-1x_2-1x_3+1x_0$	
x_7	-40	$+1x_3+1x_0$	
x_8	-25	$+1x_2+1x_0$	
x_9	-15	$+1x_1+1x_0$	
z	0	$-1x_0$	

x_7 leaves

x_4	50	$-1x_1$	$+1x_7$
x_5	52	$+1x_2-2x_3+1x_7$	
x_6	54	$+1x_1-1x_2-2x_3+1x_7$	
x_0	40	$-1x_3+1x_7$	
x_8	15	$+1x_2-1x_3+1x_7$	
x_9	25	$+1x_1-1x_3+1x_7$	
z	-40	$+1x_3-1x_7$	

x_3 enters and x_8 leaves

x_4	50	$-1x_1$	$+1x_7$
x_5	22	$-1x_2+2x_8-1x_7$	
x_6	24	$+1x_1-3x_2+2x_8-1x_7$	
x_0	25	$-1x_2+1x_8$	
x_3	15	$+1x_2-1x_8+1x_7$	
x_9	10	$+1x_1-1x_2+1x_8$	
z	-25	$+1x_2-1x_8$	

x_2 enters and x_6 leaves

x_4	50	$-1x_1$	$+1x_7$
x_5	14	$-0.333333x_1 + 0.333333x_6 + 1.333333x_8 - 0.666667x_7$	
x_2	8	$+0.333333x_1 - 0.333333x_6 + 0.666667x_8 - 0.333333x_7$	
x_0	17	$-0.333333x_1 + 0.333333x_6 + 0.333333x_8 + 0.333333x_7$	
x_3	23	$+0.333333x_1 - 0.333333x_6 - 0.333333x_8 + 0.666667x_7$	
x_9	2	$+0.666667x_1 + 0.333333x_6 + 0.333333x_8 + 0.333333x_7$	
z	-17	$+0.333333x_1 - 0.333333x_6 - 0.333333x_8 - 0.333333x_7$	

x_1 enters and x_5 leaves

x_4	8	$+3x_5 - 1x_6 - 4x_8 + 3x_7$
x_1	42	$-3x_5 + 1x_6 + 4x_8 - 2x_7$
x_2	22	$-1x_5 + 2x_8 - 1x_7$
x_0	3	$+1x_5 - 1x_8 + 1x_7$
x_3	37	$-1x_5 + 1x_8$
x_9	30	$-2x_5 + 1x_6 + 3x_8 - 1x_7$
z	-3	$-1x_5 + 1x_8 - 1x_7$

x_8 enters and x_4 leaves

x_8	2	$+0.75x_5 - 0.25x_6 - 0.25x_4 + 0.75x_7$
x_1	50	$-1x_4 + 1x_7$
x_2	26	$+0.5x_5 - 0.5x_6 - 0.5x_4 + 0.5x_7$
x_0	1	$+0.25x_5 + 0.25x_6 + 0.25x_4 + 0.25x_7$
x_3	39	$-0.25x_5 - 0.25x_6 - 0.25x_4 + 0.75x_7$
x_9	36	$+0.25x_5 + 0.25x_6 - 0.75x_4 + 1.25x_7$
z	-1	$-0.25x_5 - 0.25x_6 - 0.25x_4 - 0.25x_7$

Final Dictionary

Problem is Infeasible Initialization phase yields negative answer

4 Dictionary # 4

x_4	1	$-1x_1$
x_3	-2	$-1x_2 + 2x_1$
x_5	0	$-2x_2$
z	1	$+3x_1$

4.1 Initialization Phase: Aux Problem Solving

$$\begin{array}{c|cc}
 x_4 & 1 & -1x_1 + 1x_0 \\
 x_3 & -2 & -1x_2 + 2x_1 + 1x_0 \\
 x_5 & 0 & -2x_2 + 1x_0 \\
 \hline
 z & 0 & -1x_0
 \end{array}$$

x_3 leaves

$$\begin{array}{c|cc}
 x_4 & 3 & +1x_2 - 3x_1 + 1x_3 \\
 x_0 & 2 & +1x_2 - 2x_1 + 1x_3 \\
 x_5 & 2 & -1x_2 - 2x_1 + 1x_3 \\
 \hline
 z & -2 & -1x_2 + 2x_1 - 1x_3
 \end{array}$$

x_1 enters and x_0 leaves

$$\begin{array}{c|ccc}
 x_4 & 0 & -0.5x_2 + 1.5x_0 - 0.5x_3 \\
 x_1 & 1 & +0.5x_2 - 0.5x_0 + 0.5x_3 \\
 x_5 & 0 & -2x_2 + 1x_0 \\
 \hline
 z & 0 & -1x_0
 \end{array}$$

Final Dictionary

4.2 Optimization Phase

Problem is feasible Initialization phase yields a zero answer

$$\begin{array}{c|cc}
 x_4 & 0 & -0.5x_2 - 0.5x_3 \\
 x_1 & 1 & +0.5x_2 + 0.5x_3 \\
 x_5 & 0 & -2x_2 \\
 \hline
 z & 4 & +1.5x_2 + 1.5x_3
 \end{array}$$

5 Dictionary # 5

$$\begin{array}{c|ccc}
 x_6 & -6 & -1x_4 - 3x_3 + 2x_1 \\
 x_2 & -12 & -6x_3 - 1x_1 - 1x_5 \\
 x_8 & 3 & +1x_4 - 1x_1 + 5x_5 \\
 x_9 & 2 & -1x_5 \\
 x_7 & 4 & -1x_3 \\
 \hline
 z & 0 & +2x_4 + 1x_3 - 3x_1 + 4x_5
 \end{array}$$

5.1 Initialization Phase: Aux Problem Solving

x_6	-6	$-1x_4 - 3x_3 + 2x_1$	$+1x_0$
x_2	-12	$-6x_3 - 1x_1 - 1x_5 + 1x_0$	
x_8	3	$+1x_4$	$-1x_1 + 5x_5 + 1x_0$
x_9	2		$-1x_5 + 1x_0$
x_7	4	$-1x_3$	$+1x_0$
z	0		$-1x_0$

x_2 leaves

x_6	6	$-1x_4 + 3x_3 + 3x_1 + 1x_5 + 1x_2$	
x_0	12	$+6x_3 + 1x_1 + 1x_5 + 1x_2$	
x_8	15	$+1x_4 + 6x_3$	$+6x_5 + 1x_2$
x_9	14	$+6x_3 + 1x_1$	$+1x_2$
x_7	16	$+5x_3 + 1x_1 + 1x_5 + 1x_2$	
z	-12	$-6x_3 - 1x_1 - 1x_5 - 1x_2$	

Final Dictionary Problem is Infeasible Initialization phase yields negative answer

6 Dictionary # 6

x_4	0	$-1x_5$	
x_6	2		$+1x_3$
x_2	1	$-2x_5 + 2x_3$	
x_1	-3	$+1x_5 + 1x_3$	
z	0	$+6x_5 - 5x_3$	

6.1 Initialization Phase: Aux Problem Solving

x_4	0	$-1x_5$	$+1x_0$
x_6	2		$+1x_3 + 1x_0$
x_2	1	$-2x_5 + 2x_3 + 1x_0$	
x_1	-3	$+1x_5 + 1x_3 + 1x_0$	
z	0		$-1x_0$

x_1 leaves

$$\begin{array}{c|ccc}
x_4 & 3 & -2x_5 - 1x_3 + 1x_1 & \\
x_6 & 5 & -1x_5 & +1x_1 \\
x_2 & 4 & -3x_5 + 1x_3 + 1x_1 & \\
x_0 & 3 & -1x_5 - 1x_3 + 1x_1 & \\
\hline
z & -3 & +1x_5 + 1x_3 - 1x_1 &
\end{array}$$

x_3 enters and x_0 leaves

$$\begin{array}{c|ccc}
x_4 & 0 & -1x_5 + 1x_0 & \\
x_6 & 5 & -1x_5 & +1x_1 \\
x_2 & 7 & -4x_5 - 1x_0 + 2x_1 & \\
x_3 & 3 & -1x_5 - 1x_0 + 1x_1 & \\
\hline
z & 0 & & -1x_0
\end{array}$$

Final Dictionary Problem is feasible Initialization phase yields a zero answer

6.2 Optimization Phase

$$\begin{array}{c|ccc}
x_4 & 0 & -1x_5 & \\
x_6 & 5 & -1x_5 & +1x_1 \\
x_2 & 7 & -4x_5 & +2x_1 \\
x_3 & 3 & -1x_5 & +1x_1 \\
\hline
z & -15 & +11x_5 - 5x_1 &
\end{array}$$

7 Dictionary # 7

$$\begin{array}{c|ccc}
x_4 & 10 & +1x_1 - 2x_2 + 1x_3 & \\
x_5 & 12 & +1x_1 + 1x_2 - 2x_3 & \\
x_6 & 5 & & +1x_2 + 1x_3 \\
x_7 & -15 & & +1x_2 \\
x_8 & -8 & & +1x_3 \\
x_9 & 5 & +1x_1 & \\
\hline
z & 0 & +1x_1 - 2x_2 - 4x_3 &
\end{array}$$

7.1 Initialization Phase: Aux Problem Solving

x_4	10	$+1x_1 - 2x_2 + 1x_3 + 1x_0$	
x_5	12	$+1x_1 + 1x_2 - 2x_3 + 1x_0$	
x_6	5	$+1x_2 + 1x_3 + 1x_0$	
x_7	-15	$+1x_2$	$+1x_0$
x_8	-8		$+1x_3 + 1x_0$
x_9	5	$+1x_1$	$+1x_0$
z	0		$-1x_0$

x_7 leaves

x_4	25	$+1x_1 - 3x_2 + 1x_3 + 1x_7$	
x_5	27	$+1x_1$	$-2x_3 + 1x_7$
x_6	20		$+1x_3 + 1x_7$
x_0	15	$-1x_2$	$+1x_7$
x_8	7	$-1x_2 + 1x_3 + 1x_7$	
x_9	20	$+1x_1 - 1x_2$	$+1x_7$
z	-15	$+1x_2$	$-1x_7$

x_2 enters and x_8 leaves

x_4	4	$+1x_1 + 3x_8 - 2x_3 - 2x_7$	
x_5	27	$+1x_1$	$-2x_3 + 1x_7$
x_6	20		$+1x_3 + 1x_7$
x_0	8	$+1x_8 - 1x_3$	
x_2	7	$-1x_8 + 1x_3 + 1x_7$	
x_9	13	$+1x_1 + 1x_8 - 1x_3$	
z	-8	$-1x_8 + 1x_3$	

x_3 enters and x_4 leaves

x_3	2	$+0.5x_1 + 1.5x_8 - 0.5x_4 - 1x_7$	
x_5	23	$-3x_8 + 1x_4 + 3x_7$	
x_6	22	$+0.5x_1 + 1.5x_8 - 0.5x_4$	
x_0	6	$-0.5x_1 - 0.5x_8 + 0.5x_4 + 1x_7$	
x_2	9	$+0.5x_1 + 0.5x_8 - 0.5x_4$	
x_9	11	$+0.5x_1 - 0.5x_8 + 0.5x_4 + 1x_7$	
z	-6	$+0.5x_1 + 0.5x_8 - 0.5x_4 - 1x_7$	

x_1 enters and x_0 leaves

x_3	8	$-1x_0 + 1x_8$
x_5	23	$-3x_8 + 1x_4 + 3x_7$
x_6	28	$-1x_0 + 1x_8 + 1x_7$
x_1	12	$-2x_0 - 1x_8 + 1x_4 + 2x_7$
x_2	15	$-1x_0 + 1x_7$
x_9	17	$-1x_0 - 1x_8 + 1x_4 + 2x_7$
z	0	$-1x_0$

Final Dictionary

Problem is feasible Initialization phase yields a zero answer

7.2 Optimization Phase

x_3	8	$+1x_8$
x_5	23	$-3x_8 + 1x_4 + 3x_7$
x_6	28	$+1x_8 + 1x_7$
x_1	12	$-1x_8 + 1x_4 + 2x_7$
x_2	15	$+1x_7$
x_9	17	$-1x_8 + 1x_4 + 2x_7$
z	-50	$-5x_8 + 1x_4$

8 Dictionary 8

x_4	0.6	$-3x_1 + 7.9x_2 - 2.1x_3$
x_5	-3.8	$+6.2x_1 - 7.4x_2 + 2.3x_3$
x_6	4.2	$-6x_1 + 2.5x_2 + 1.7x_3$
x_7	0.6	$-6.3x_1 - 7.7x_2 + 7.7x_3$
x_8	4	$+1.1x_1 + 2.3x_2 + 1.7x_3$
x_9	-1.9	$-1x_1 - 1.9x_2 - 1.4x_3$
z	0	$-4.9x_1 - 2.7x_2 + 2.5x_3$

8.1 Initialization Phase: Aux Problem Solving

x_4	0.6	$-3x_1$	$+7.9x_2$	$-2.1x_3$	$+1x_0$
x_5	-3.8	$+6.2x_1$	$-7.4x_2$	$+2.3x_3$	$+1x_0$
x_6	4.2	$-6x_1$	$+2.5x_2$	$+1.7x_3$	$+1x_0$
x_7	0.6	$-6.3x_1$	$-7.7x_2$	$+7.7x_3$	$+1x_0$
x_8	4	$+1.1x_1$	$+2.3x_2$	$+1.7x_3$	$+1x_0$
x_9	-1.9	$-1x_1$	$-1.9x_2$	$-1.4x_3$	$+1x_0$
z	0				$-1x_0$

x_5 leaves

x_4	4.4	$-9.2x_1$	$+15.3x_2$	$-4.4x_3$	$+1x_5$
x_0	3.8	$-6.2x_1$	$+7.4x_2$	$-2.3x_3$	$+1x_5$
x_6	8	$-12.2x_1$	$+9.9x_2$	$-0.6x_3$	$+1x_5$
x_7	4.4	$-12.5x_1$	$-0.3x_2$	$+5.4x_3$	$+1x_5$
x_8	7.8	$-5.1x_1$	$+9.7x_2$	$-0.6x_3$	$+1x_5$
x_9	1.9	$-7.2x_1$	$+5.5x_2$	$-3.7x_3$	$+1x_5$
z	-3.8	$+6.2x_1$	$-7.4x_2$	$+2.3x_3$	$-1x_5$

x_1 enters and x_9 leaves

x_4	1.9722222222	$+1.277778x_9$	$+8.272222x_2$	$+0.327778x_3$	$-0.277778x_5$
x_0	2.1638888889	$+0.861111x_9$	$+2.663889x_2$	$+0.886111x_3$	$+0.138889x_5$
x_6	4.7805555556	$+1.694444x_9$	$+0.580556x_2$	$+5.669444x_3$	$-0.694444x_5$
x_7	1.1013888889	$+1.736111x_9$	$-9.848611x_2$	$+11.823611x_3$	$-0.736111x_5$
x_8	6.4541666667	$+0.708333x_9$	$+5.804167x_2$	$+2.020833x_3$	$+0.291667x_5$
x_1	0.2638888889	$-0.138889x_9$	$+0.763889x_2$	$-0.513889x_3$	$+0.138889x_5$
z	-2.1638888889	$-0.861111x_9$	$-2.663889x_2$	$-0.886111x_3$	$-0.138889x_5$

Final Dictionary Problem is Infeasible Initialization phase yields negative answer

9 Dictionary # 9

x_4	-3.8	$+3.3x_1 + 6.4x_2 - 4.2x_3$
x_5	-3.2	$+2.6x_1 - 4.5x_2 + 0.5x_3$
x_6	2.4	$-6.4x_1 - 4.3x_2 - 0.8x_3$
x_7	3.9	$+1x_1 + 4.8x_2 - 6.3x_3$
x_8	0.3	$+5.7x_1 + 4.6x_2 - 6x_3$
x_9	-4.7	$-0.5x_1 - 0.8x_2 + 7.2x_3$
z	0	$-2.4x_1 - 2.7x_2 - 1.5x_3$

9.1 Initialization Phase: Aux Problem Solving

x_4	-3.8	$+3.3x_1 + 6.4x_2 - 4.2x_3 + 1x_0$
x_5	-3.2	$+2.6x_1 - 4.5x_2 + 0.5x_3 + 1x_0$
x_6	2.4	$-6.4x_1 - 4.3x_2 - 0.8x_3 + 1x_0$
x_7	3.9	$+1x_1 + 4.8x_2 - 6.3x_3 + 1x_0$
x_8	0.3	$+5.7x_1 + 4.6x_2 - 6x_3 + 1x_0$
x_9	-4.7	$-0.5x_1 - 0.8x_2 + 7.2x_3 + 1x_0$
z	0	$-1x_0$

x_9 leaves

x_4	0.9	$+3.8x_1 + 7.2x_2 - 11.4x_3 + 1x_9$
x_5	1.5	$+3.1x_1 - 3.7x_2 - 6.7x_3 + 1x_9$
x_6	7.1	$-5.9x_1 - 3.5x_2 - 8x_3 + 1x_9$
x_7	8.6	$+1.5x_1 + 5.6x_2 - 13.5x_3 + 1x_9$
x_8	5	$+6.2x_1 + 5.4x_2 - 13.2x_3 + 1x_9$
x_0	4.7	$+0.5x_1 + 0.8x_2 - 7.2x_3 + 1x_9$
z	-4.7	$-0.5x_1 - 0.8x_2 + 7.2x_3 - 1x_9$

x_3 enters and x_4 leaves

x_3	0.0789473684211	$+0.333333x_1 + 0.631579x_2 - 0.087719x_4 + 0.087719x_9$
x_5	0.971052631579	$+0.866667x_1 - 7.931579x_2 + 0.587719x_4 + 0.412281x_9$
x_6	6.46842105263	$-8.566667x_1 - 8.552632x_2 + 0.701754x_4 + 0.298246x_9$
x_7	7.53421052632	$-3x_1 - 2.926316x_2 + 1.184211x_4 - 0.184211x_9$
x_8	3.95789473684	$+1.8x_1 - 2.936842x_2 + 1.157895x_4 - 0.157895x_9$
x_0	4.13157894737	$-1.9x_1 - 3.747368x_2 + 0.631579x_4 + 0.368421x_9$
z	-4.13157894737	$+1.9x_1 + 3.747368x_2 - 0.631579x_4 - 0.368421x_9$

x_1 enters and x_6 leaves

x_3	0.330636903543	$-0.038911x_6 + 0.298792x_2 - 0.060414x_4 + 0.099324x_9$
x_5	1.6254454229	$-0.101167x_6 - 8.796826x_2 + 0.658714x_4 + 0.442453x_9$
x_1	0.755068605366	$-0.116732x_6 - 0.998362x_2 + 0.081917x_4 + 0.034815x_9$
x_7	5.26900471022	$+0.350195x_6 + 0.068769x_2 + 0.938460x_4 - 0.288655x_9$
x_8	5.3170182265	$-0.210117x_6 - 4.733893x_2 + 1.305345x_4 - 0.095228x_9$
x_0	2.69694859717	$+0.221790x_6 - 1.850481x_2 + 0.475937x_4 + 0.302273x_9$
z	-2.69694859717	$-0.221790x_6 + 1.850481x_2 - 0.475937x_4 - 0.302273x_9$

x_2 enters and x_5 leaves

x_3	0.385846550685	$-0.042347x_6 - 0.033966x_5 - 0.038040x_4 + 0.114352x_9$
x_2	0.18477635846	$-0.0115x_6 - 0.113677x_5 + 0.074881x_4 + 0.050297x_9$
x_1	0.570594972867	$-0.105250x_6 + 0.113491x_5 + 0.007159x_4 - 0.0154x_9$
x_7	5.28171163243	$+0.349404x_6 - 0.007818x_5 + 0.943609x_4 - 0.285196x_9$
x_8	4.44230669842	$-0.155675x_6 + 0.538137x_5 + 0.950867x_4 - 0.333329x_9$
x_0	2.35502340827	$+0.243071x_6 + 0.210358x_5 + 0.337371x_4 + 0.2092x_9$
z	-2.35502340827	$-0.243071x_6 - 0.210358x_5 - 0.337371x_4 - 0.2092x_9$

Final Dictionary

10 Dictionary # 10

x_4	3	$+3x_2 - 1x_3 - 1x_1$
x_7	-4	$-1x_3 + 1x_1$
x_6	-20	$-1x_2 + 1x_3 + 4x_1$
x_5	11	$-1x_2 - 2x_1$
x_8	-4	$-1x_3 + 1x_1$
z	0	$+1x_2 + 2x_3 - 2x_1$

10.1 Initialization Phase: Aux Problem Solving

x_4	3	$+3x_2 - 1x_3 - 1x_1 + 1x_0$
x_7	-4	$-1x_3 + 1x_1 + 1x_0$
x_6	-20	$-1x_2 + 1x_3 + 4x_1 + 1x_0$
x_5	11	$-1x_2 - 2x_1 + 1x_0$
x_8	-4	$-1x_3 + 1x_1 + 1x_0$
z	0	$-1x_0$

x_6 leaves

x_4	23	$+4x_2 - 2x_3 - 5x_1 + 1x_6$
x_7	16	$+1x_2 - 2x_3 - 3x_1 + 1x_6$
x_0	20	$+1x_2 - 1x_3 - 4x_1 + 1x_6$
x_5	31	$-1x_3 - 6x_1 + 1x_6$
x_8	16	$+1x_2 - 2x_3 - 3x_1 + 1x_6$
z	-20	$-1x_2 + 1x_3 + 4x_1 - 1x_6$

x_1 enters and x_4 leaves

x_1	4.6	$+0.8x_2 - 0.4x_3 - 0.2x_4 + 0.2x_6$
x_7	2.2	$-1.4x_2 - 0.8x_3 + 0.6x_4 + 0.4x_6$
x_0	1.6	$-2.2x_2 + 0.6x_3 + 0.8x_4 + 0.2x_6$
x_5	3.4	$-4.8x_2 + 1.4x_3 + 1.2x_4 - 0.2x_6$
x_8	2.2	$-1.4x_2 - 0.8x_3 + 0.6x_4 + 0.4x_6$
z	-1.6	$+2.2x_2 - 0.6x_3 - 0.8x_4 - 0.2x_6$

x_2 enters and x_5 leaves

x_1	5.1666666667	$-0.166667x_5 - 0.166667x_3 + 0.166667x_6$
x_7	1.2083333333	$+0.291667x_5 - 1.208333x_3 + 0.25x_4 + 0.458333x_6$
x_0	0.041666666667	$+0.458333x_5 - 0.041667x_3 + 0.25x_4 + 0.291667x_6$
x_2	0.7083333333	$-0.208333x_5 + 0.291667x_3 + 0.25x_4 - 0.041667x_6$
x_8	1.2083333333	$+0.291667x_5 - 1.208333x_3 + 0.25x_4 + 0.458333x_6$
z	-0.041666666667	$-0.458333x_5 + 0.041667x_3 - 0.25x_4 - 0.291667x_6$

x_3 enters and x_0 leaves

x_1	5	$-2x_5 + 4x_0 - 1x_4 - 1x_6$
x_7	$-1.57651669497e - 14$	$-13x_5 + 29x_0 - 7x_4 - 8x_6$
x_3	1	$+11x_5 - 24x_0 + 6x_4 + 7x_6$
x_2	1	$+3x_5 - 7x_0 + 2x_4 + 2x_6$
x_8	$-1.57651669497e - 14$	$-13x_5 + 29x_0 - 7x_4 - 8x_6$
z	0	$-1x_0$

Final Dictionary Problem is feasible Initialization phase yields a zero answer

$$\begin{array}{c|cccc}
 x_1 & 5 & -2x_5 & -1x_4 & -1x_6 \\
 x_7 & -1.57651669497e - 14 & -13x_5 & -7x_4 & -8x_6 \\
 x_3 & 1 & +11x_5 & +6x_4 & +7x_6 \\
 x_2 & 1 & +3x_5 & +2x_4 & +2x_6 \\
 x_8 & -1.57651669497e - 14 & -13x_5 & -7x_4 & -8x_6 \\
 \hline
 z & -7 & +29x_5 & +16x_4 & +18x_6
 \end{array}$$