```
8.0
                       +3.000000x_2 -3.000000x_3 +2.000000x_4 -1.000000x_5 -2.000000x_6 +3.000000x_7
x_8
     6.0
           +1.000000x_1 +2.000000x_2 -3.000000x_3 -2.000000x_4 +2.000000x_5 +1.000000x_6
x_9
     15.0
           -3.000000x_1 + 1.000000x_2 - 1.000000x_3
                                                                          -3.000000x_6 - 1.000000x_7
x_{10}
x_{11}
     8.0
           +1.000000x_1 + 1.000000x_2 + 1.000000x_3 - 1.000000x_4 - 1.000000x_5 + 2.000000x_6 + 3.000000x_7
           +1.000000x_1 +3.000000x_2 -1.000000x_3 +2.000000x_4 +2.000000x_5
     14.0
x_{12}
     14.0
                        +1.000000x_2 -2.000000x_3 +3.000000x_4
                                                                          -3.000000x_6 + 3.000000x_7
x_{13}
                                                             +1.000000x_5 +3.000000x_6 +3.000000x_7
     4.0
           -2.000000x_1 -3.000000x_2
x_{14}
x_{15}
     10.0
           +2.000000x_1 +1.000000x_2
                                                 -2.000000x_4 - 1.000000x_5 - 3.000000x_6 - 1.000000x_7
                                                                          +3.000000x_6 -3.000000x_7
     11.0
           -1.000000x_1 -1.000000x_2 +3.000000x_3 -2.000000x_4
x_{16}
     9.0
                       +1.000000x_2 -2.000000x_3
                                                             -3.000000x_5 - 2.000000x_6 - 2.000000x_7
x_{17}
     0.0
```

No initialization required –; Proceed to Optimize.

```
x_8
     8.0
                     +3.000000x_2 -3.000000x_3 +2.0000000x_4 -1.000000x_5 -2.0000000x_6 +3.000000x_7
     6.0
          +1.000000x_1 + 2.000000x_2 - 3.000000x_3 - 2.000000x_4 + 2.000000x_5 + 1.000000x_6
x_9
    15.0
          -3.000000x_1 + 1.000000x_2 - 1.000000x_3
                                                                   -3.000000x_6 - 1.000000x_7
x_{10}
          x_{11}
     8.0
          +1.000000x_1 +3.000000x_2 -1.000000x_3 +2.000000x_4 +2.000000x_5
x_{12}
    14.0
                     +1.000000x_2 -2.000000x_3 +3.000000x_4
    14.0
                                                                  -3.000000x_6 + 3.000000x_7
x_{13}
x_{14}
     4.0
          -2.000000x_1 -3.000000x_2
                                                       +1.000000x_5 +3.000000x_6 +3.000000x_7
    10.0
          +2.000000x_1 +1.000000x_2
                                            -2.000000x_4 - 1.000000x_5 - 3.000000x_6 - 1.000000x_7
x_{15}
    11.0
          -1.000000x_1 - 1.000000x_2 + 3.000000x_3 - 2.000000x_4
                                                                  +3.000000x_6 -3.000000x_7
x_{16}
     9.0
                     +1.0000000x_2 -2.0000000x_3
                                                       -3.000000x_5 -2.000000x_6 -2.000000x_7
x_{17}
     0.0
          z
```

 x_3 enters and x_9 leaves

```
2.0
       x_8
   2.0
       +0.333333x_1+0.666667x_2-0.333333x_9-0.666667x_4+0.666667x_5+0.333333x_6
x_3
   13.0
       x_{10}
   10.0
       +1.333333x_1+1.666667x_2-0.333333x_9-1.666667x_4-0.333333x_5+2.333333x_6+3.000000x_7
x_{11}
   12.0
       +0.666667x_1 + 2.333333x_2 + 0.333333x_9 + 2.666667x_4 + 1.333333x_5 - 0.333333x_6
x_{12}
   10.0
       x_{13}
   4.0
       -2.000000x_1 -3.000000x_2
                                           +1.000000x_5 +3.000000x_6 +3.000000x_7
x_{14}
   10.0
       +2.000000x_1 +1.000000x_2
                                  -2.000000x_4 -1.000000x_5 -3.000000x_6 -1.000000x_7
x_{15}
   17.0
                +1.000000x_2 - 1.000000x_9 - 4.000000x_4 + 2.000000x_5 + 4.000000x_6 - 3.000000x_7
x_{16}
        -0.666667x_1 - 0.3333333x_2 + 0.666667x_9 + 1.3333333x_4 - 4.333333x_5 - 2.666667x_6 - 2.000000x_7
x_{17}
       4.0
```

 x_4 enters and x_3 leaves

```
14.0
       x_8
   3.0
       +0.500000x_1+1.000000x_2-0.500000x_9-1.500000x_3+1.000000x_5+0.500000x_6
x_4
   15.0
       -3.000000x_1 + 1.000000x_2
                                  -1.000000x_3
                                                   -3.000000x_6 - 1.000000x_7
x_{10}
x_{11}
   5.0
       +0.500000x_1
                         +0.500000x_9 +2.500000x_3 -2.000000x_5 +1.500000x_6 +3.000000x_7
   20.0
       +2.000000x_1 +5.000000x_2 -1.000000x_9 -4.000000x_3 +4.000000x_5 +1.000000x_6
x_{12}
   23.0
       x_{13}
    4.0
       -2.000000x_1 -3.000000x_2
                                           +1.000000x_5 +3.000000x_6 +3.000000x_7
x_{14}
x_{15}
    4.0
       5.0
x_{16}
    9.0
                +1.000000x_2
                                  -2.000000x_3 -3.000000x_5 -2.000000x_6 -2.000000x_7
x_{1\underline{7}}
    6.0
       -1.000000x_1
                         -1.000000x_9 - 1.000000x_3 + 4.000000x_5 + 2.000000x_6 + 1.000000x_7
z
```

 x_5 enters and x_{15} leaves

```
+1.333333x_1 + 4.666667x_2 - 0.666667x_9 - 5.000000x_3 - 0.333333x_{15} - 2.333333x_6 + 2.666667x_7
  15.3333333333
x_8
  4.33333333333
          x_4
          -3.000000x_1 + 1.000000x_2
                             -1.000000x_3
x_{10}
     15.0
                                         -3.000000x_6 - 1.000000x_7
  2.33333333333
          x_{11}
  25.3333333333
          +3.333333x_1 +3.666667x_2 +0.3333333x_9
                                   -1.333333x_{15} -4.333333x_6 -1.333333x_7
x_{12}
          27.0
x_{13}
  5.33333333333
          x_{14}
x_5
  1.33333333333
          x_{16}
  2.33333333333
          -1.000000x_1 + 2.000000x_2 - 1.000000x_9 - 5.000000x_3 + 1.000000x_{15} + 2.000000x_6 - 1.000000x_7
     5.0
x_{17}
  11.3333333333
          z
```

 x_1 enters and x_{16} leaves

```
16.5
     -0.500000x_{16} + 3.500000x_2 - 0.500000x_9 - 3.000000x_3
                                   +1.500000x_7
x_8
  5.0625
     x_4
  12.375
     x_{10}
     x_{11}
  2.1875
  28.25
     x_{12}
x_{13}
  29.1875
     -0.937500x_{16} + 0.812500x_2 - 0.187500x_9 + 0.250000x_3 - 0.375000x_{15} - 1.125000x_6 - 0.187500x_7
  3.875
     x_{14}
     x_5
  1.625
  0.875
     x_1
  4.125
     +0.375000x_{16} + 2.875000x_2 - 1.125000x_9 - 6.500000x_3 + 0.750000x_{15} + 0.250000x_6 - 0.125000x_7
x_{17}
     11.625
```

 x_3 enters and x_{17} leaves

```
14.5961538462
                                                                                                                               -0.673077x_{16} + 2.173077x_2 + 0.019231x_9 + 0.461538x_{17} - 0.346154x_{15} - 0.115385x_6 + 1.557692x_7 + 0.01673077x_{16} + 0.017677x_{16} + 0.01777x_{16} + 0.01777x_{16
 x_8
                                  5.53846153846
                                                                                                                               x_4
                                                                                                                              +0.807692x_{16} +1.192308x_2 +0.576923x_9 +0.846154x_{17} -1.384615x_{15} -8.461538x_6 +1.730769x_7 +0.846154x_{17} -1.384615x_{17} 
                                  8.88461538462
x_{10}
x_{11}
                                  2.34615384615
                                                                                                                              +0.076923x_{16}+0.923077x_2-0.230769x_9-0.038462x_{17}+0.653846x_{15}+3.884615x_6+3.807692x_7
                                                                                                                               -0.961538x_{16} + 2.961538x_2 - 0.115385x_9 - 0.769231x_{17} + 0.076923x_{15} + 1.692308x_6 - 4.346154x_7 + 0.076923x_{15} + 0.07662x_{15} + 0.0766
                                 31.4230769231
x_{12}
                                   29.3461538462
                                                                                                                               x_{13}
                                                                                                                              2.92307692308
x_{14}
 x_5
                                  2.57692307692
                                                                                                                               -0.038462x_{16} + 0.038462x_2 + 0.115385x_9 - 0.230769x_{17} - 0.076923x_{15} - 0.692308x_6 - 0.653846x_7
                                  1.82692307692
                                                                                                                               -0.288462x_{16} - 0.211538x_2 - 0.134615x_9 - 0.230769x_{17} + 0.423077x_{15} + 1.807692x_6 - 0.903846x_7
  x_1
  x_{\underline{3}}
                               0.634615384615
                                                                                                                               13.8461538462
```

 x_{16} enters and x_1 leaves

```
+2.333333x_1 + 2.666667x_2 + 0.333333x_9 + 1.000000x_{17} - 1.333333x_{15} - 4.333333x_6 + 3.666667x_7
            10.3333333333
 x_8
           3.83333333333
                                               +0.933333x_1+0.466667x_2-0.066667x_9+0.100000x_{17}-0.433333x_{15}-1.033333x_6-0.233333x_7
x_4
x_{10}
                      14.0
                                               2.83333333333
                                               x_{11}
                                               +3.333333x_1 +3.666667x_2 +0.333333x_9
                                                                                                                                                                 -1.333333x_{15} - 4.333333x_6 - 1.333333x_7
           25.3333333333
x_{12}
                                               23.5
x_{13}
            6.33333333333
                                               -1.866667x_1 - 2.933333x_2 + 0.133333x_9 - 0.200000x_{17} - 0.133333x_{15} + 2.066667x_6 + 2.466667x_7 + 2.066667x_1 - 2.066667x_2 + 2.066667x_1 - 2.066667x_2 + 2.066667x_2 + 2.066667x_3 + 2.066667x_2 + 2.066667x_3 + 2.06666
x_{14}
                                               x_5
           2.33333333333
x_{16}
           6.33333333333
                                               1.0
 x_3
           14.3333333333
                                               z
```

 x_{-1} enters and Final Dictionary Solution: 14.333333333 Num Pivots: 6