```
12.0
           -3.000000x_1 -3.000000x_2 -3.000000x_3
                                                             -2.000000x_5
                                                                                      +1.000000x_7
x_8
     2.0
                        -1.000000x_2 + 1.000000x_3 + 2.000000x_4 - 1.000000x_5
                                                                                       +3.000000x_7
x_9
           -1.000000x_1 -1.000000x_2 -1.000000x_3
                                                                                       -3.000000x_7
     15.0
x_{10}
x_{11}
     7.0
           +1.000000x_1 -1.000000x_2
                                                 +1.000000x_4 +2.000000x_5 -1.000000x_6 -1.000000x_7
                        -1.000000x_2 -3.000000x_3 -3.000000x_4 -1.000000x_5
     7.0
                                                                                       +1.000000x_7
x_{12}
     5.0
           x_{13}
     5.0
           +2.000000x_1 -1.000000x_2 +2.000000x_3 +1.000000x_4 -1.000000x_5
                                                                                       -1.000000x_7
x_{14}
x_{15}
     9.0
           -3.000000x_1 + 1.000000x_2
                                                 -1.000000x_4 + 1.000000x_5 - 2.000000x_6 - 3.000000x_7
           -2.000000x_1 + 1.000000x_2 + 3.000000x_3 - 2.000000x_4
                                                                          +1.000000x_6 +1.000000x_7
     4.0
x_{16}
x_{1\underline{7}}
     12.0
           +3.000000x_1 -3.000000x_2
                                                                          +2.000000x_6 +2.000000x_7
                                                 -1.000000x_4
     0.0
           +2.000000x_1 -2.000000x_2 +1.000000x_3 +2.000000x_4
                                                                                       -2.000000x_7
 z
```

No initialization required –; Proceed to Optimize.

```
x_8
     12.0
           -3.000000x_1 - 3.000000x_2 - 3.000000x_3
                                                             -2.000000x_5
                                                                                     +1.000000x_7
     2.0
                        -1.000000x_2 + 1.000000x_3 + 2.000000x_4 - 1.000000x_5
                                                                                      +3.000000x_7
x_9
     15.0
           -1.000000x_1 -1.000000x_2 -1.000000x_3
                                                                                      -3.000000x_7
x_{10}
     7.0
           +1.000000x_1 -1.000000x_2
                                                +1.000000x_4 +2.000000x_5 -1.000000x_6 -1.000000x_7
x_{11}
x_{12}
     7.0
                       -1.000000x_2 -3.000000x_3 -3.000000x_4 -1.000000x_5
                                                                                     +1.000000x_7
           5.0
x_{13}
     5.0
           +2.000000x_1 -1.000000x_2 +2.000000x_3 +1.000000x_4 -1.000000x_5
                                                                                      -1.000000x_7
x_{14}
     9.0
           -3.000000x_1 + 1.000000x_2
                                                -1.000000x_4 + 1.000000x_5 - 2.000000x_6 - 3.000000x_7
x_{15}
     4.0
           -2.000000x_1 + 1.000000x_2 + 3.000000x_3 - 2.000000x_4
x_{16}
                                                                         +1.000000x_6 +1.000000x_7
           +3.000000x_1 -3.000000x_2
     12.0
                                                                         +2.000000x_6 +2.000000x_7
                                                -1.000000x_4
x_{17}
           +2.000000x_1 -2.000000x_2 +1.000000x_3 +2.000000x_4
     0.0
                                                                                      -2.000000x_7
z
```

 x_1 enters and x_{16} leaves

```
6.0
        x_8
    2.0
                   -1.000000x_2 + 1.000000x_3 + 2.000000x_4 - 1.000000x_5
                                                                     +3.000000x_7
x_9
    13.0
        +0.500000x_{16} -1.500000x_2 -2.500000x_3 +1.000000x_4
                                                           -0.500000x_6 -3.500000x_7
x_{10}
    9.0
         -0.500000x_{16} -0.500000x_2 +1.500000x_3
                                                 +2.000000x_5 -0.500000x_6 -0.500000x_7
x_{11}
    7.0
                   -1.000000x_2 -3.000000x_3 -3.000000x_4 -1.000000x_5
                                                                     +1.000000x_7
x_{12}
    9.0
        x_{13}
                             +5.000000x_3 -1.000000x_4 -1.000000x_5 +1.000000x_6
    9.0
        -1.000000x_{16}
x_{14}
    3.0
        x_{15}
    2.0
        -0.500000x_{16} + 0.500000x_2 + 1.500000x_3 - 1.000000x_4
                                                           +0.500000x_6 +0.500000x_7
x_1
        -1.500000x_{16} - 1.500000x_2 + 4.500000x_3 - 4.000000x_4
                                                           +3.500000x_6 + 3.500000x_7
    18.0
x_{17}
        -1.000000x_{16} -1.000000x_2 +4.000000x_3
                                                           +1.000000x_6 -1.000000x_7
    4.0
```

 x_3 enters and x_{15} leaves

```
1.0
                   -1.000000x_{16} - 3.666667x_2 + 1.666667x_{15} - 0.333333x_4 - 3.666667x_5 + 4.333333x_6 + 7.000000x_7
x_8
     2.66666666667
                   +0.333333x_{16} - 1.1111111x_2 - 0.222222x_{15} + 2.444444x_4 - 0.777778x_5 - 0.777778x_6 + 2.000000x_7
x_9
     11.3333333333
                   x_{10}
x_{11}
         10.0
                               -0.666667x_2 - 0.3333333x_{15} + 0.666667x_4 + 2.3333333x_5 - 1.666667x_6 - 2.000000x_7
                   -1.000000x_{16} - 0.666667x_2 + 0.666667x_{15} - 4.333333x_4 - 1.666667x_5 + 2.333333x_6 + 4.000000x_7
         5.0
x_{12}
     12.3333333333
                   x_{13}
     12.3333333333
                   x_{14}
x_3
    0.666666666667
                   +0.333333x_{16} - 0.111111x_2 - 0.222222x_{15} + 0.444444x_4 + 0.222222x_5 - 0.777778x_6 - 1.000000x_7
                               +0.333333x_2 - 0.333333x_{15} - 0.3333333x_4 + 0.3333333x_5 - 0.666667x_6 - 1.000000x_7
         3.0
x_1
         21.0
                               -2.000000x_2 -1.000000x_{15} -2.000000x_4 +1.000000x_5
x_{17}
     6.6666666667
                   +0.333333x_{16} - 1.444444x_2 - 0.888889x_{15} + 1.777778x_4 + 0.888889x_5 - 2.111111x_6 - 5.000000x_7
```

 x_4 enters and x_{12} leaves

```
-0.923077x_{16} - 3.615385x_2 + 1.615385x_{15} + 0.076923x_{12} - 3.538462x_5 + 4.153846x_6 + 6.692308x_7 + 6.69208x_7 + 6.69208x_7 + 6.69208x_7 + 6.69208x_7 + 6.69208x_7 + 6.6008x_7 + 6.6008x_7 +
                                       0.615384615385
   x_8
                                           5.48717948718
                                                                                                                                                                   -0.230769x_{16} - 1.487179x_2 + 0.153846x_{15} - 0.564103x_{12} - 1.717949x_5 + 0.538462x_6 + 4.256410x_7
   x_9
 x_{10}
                                           11.2051282051
                                                                                                                                                                   -0.307692x_{16} - 1.205128x_2 + 0.538462x_{15} + 0.025641x_{12} - 0.512821x_5 + 1.384615x_6 - 1.102564x_7 + 0.025641x_{12} + 0.025641x_{13} + 0.025641x_{14} + 0.025641x_{15} 
                                            10.7692307692
                                                                                                                                                                  x_{11}
                                                                                                                                                                  1.15384615385
  x_4
                                                                                                                                                                  13.7435897436
x_{13}
                                             13.7435897436
                                                                                                                                                                   x_{14}
                                                                                                                                                                   +0.230769x_{16} - 0.179487x_2 - 0.153846x_{15} - 0.102564x_{12} + 0.051282x_5 - 0.538462x_6 - 0.589744x_7
   x_3
                                            1.17948717949
                                            2.61538461538
                                                                                                                                                                   +0.076923x_{16} + 0.384615x_2 - 0.384615x_{15} + 0.076923x_{12} + 0.461538x_5 - 0.846154x_6 - 1.307692x_7 + 0.076923x_{13} + 0.076923x_{14} + 0.076923x_{15} + 0.076627x_{15} + 0.076627x_{15} + 0.076627x_{15} + 0.07667x_{15} + 0.07667x_{15} + 0.07667x_{15} + 0.0767x_{15} + 0.0767x_{15} + 0.0767x_{15} + 0.07667x_{15} + 0.0767x_{15} + 0.0767
   x_1
                                           18.6923076923
                                                                                                                                                                   +0.461538x_{16} -1.692308x_2 -1.307692x_{15} +0.461538x_{12} +1.769231x_5 -1.076923x_6 -2.846154x_7 +0.461538x_{16} +0.46154x_{16} +0.46154x_{
  x_{17}
                                           8.71794871795
                                                                                                                                                                    z
```

 x_5 enters and x_8 leaves

```
0.173913043478
                                                                                          -0.260870x_{16} - 1.021739x_2 + 0.456522x_{15} + 0.021739x_{12} - 0.282609x_8 + 1.173913x_6 + 1.891304x_7 + 0.021739x_{13} + 0.021739x_{14} + 0.021739x_{15} + 0.0217374x_{15} + 0.0217374x_{15} + 0.0217374x_{15} + 0.0217374x_{15} + 0.0217374x_
 x_5
                         5.1884057971
                                                                                          +0.217391x_{16}+0.268116x_2-0.630435x_{15}-0.601449x_{12}+0.485507x_8-1.478261x_6+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.007246x_7+1.00724x_7+1.00724x_7+1.00724x_7+1.00724x_7+1.00724x_7+1.00724x_7+1.00724x_7+1.00724x_7+1.00724x_7+1.0
 x_9
x_{10}
                         11.115942029
                                                                                           -0.695652x_{16} - 2.891304x_2 + 0.717391x_{15} - 0.108696x_{12} - 0.586957x_8 + 1.130435x_6 + 2.543478x_7
x_{11}
                         11.1304347826
                        1.08695652174
                                                                                          x_4
x_{13}
                                                                                           -0.304348x_{16} + 0.557971x_2 + 0.282609x_{15} - 0.224638x_{12} - 0.746377x_8 + 2.869565x_6 + 4.123188x_7
                         14.2028985507
                         13.6811594203
                                                                                          x_{14}
 x_3
                          1.1884057971
                                                                                           +0.217391x_{16} - 0.231884x_2 - 0.130435x_{15} - 0.101449x_{12} - 0.014493x_8 - 0.478261x_6 - 0.492754x_7
                         2.69565217391
                                                                                          x_1
                                                                                          -0.000000x_{16} - 3.500000x_2 - 0.500000x_{15} + 0.500000x_{12} - 0.500000x_8 + 1.000000x_6 + 0.500000x_7
                                            19.0
 x_{17}
                                                                                          8.75362318841
```

 x_{-1} enters and Final Dictionary Solution: 8.75362318841 Num Pivots: 4