```
x_8
   11.0
      +3.000000x_1 - 2.000000x_2 + 2.000000x_3
                                     +1.000000x_5 -2.000000x_6 -3.000000x_7
x_9
      10.0
x_{10}
x_{11}
   10.0
      14.0
      +3.000000x_1 + 2.000000x_2
                                     +2.000000x_5 -3.000000x_6 +2.000000x_7
x_{12}
   11.0
      x_{13}
   7.0
      -3.000000x_1 + 1.000000x_2 + 1.000000x_3
                                     -2.000000x_5 + 2.000000x_6
x_{14}
x_{15}
   12.0
      -1.000000x_1 -1.000000x_2 +2.000000x_3
                                     +2.000000x_5 -3.000000x_6 -3.000000x_7
      -1.000000x_1 -3.000000x_2 +3.000000x_3 -3.000000x_4 +3.000000x_5
   15.0
x_{16}
x_{1\underline{7}}
   6.0
      0.0
      -1.000000x_1 - 2.000000x_2
                             +2.000000x_4 +2.0000000x_5 -1.000000x_6 -1.000000x_7
```

No initialization required –; Proceed to Optimize.

```
x_8
         +2.000000x_1 - 3.000000x_2 + 2.000000x_3 - 3.000000x_4 + 3.000000x_5 - 1.000000x_6 + 1.000000x_7
    11.0
         +3.000000x_1 - 2.000000x_2 + 2.000000x_3
                                                 +1.000000x_5 -2.000000x_6 -3.000000x_7
x_9
    10.0
         x_{10}
    10.0
        x_{11}
x_{12}
    14.0
         +3.000000x_1 +2.000000x_2
                                                 +2.000000x_5 -3.000000x_6 +2.000000x_7
    11.0
         +3.000000x_1 - 3.000000x_2 - 1.000000x_3 - 3.000000x_4 - 3.000000x_5 + 2.000000x_6 - 3.000000x_7
x_{13}
x_{14}
    7.0
         -3.000000x_1 + 1.000000x_2 + 1.000000x_3
                                                 -2.000000x_5 + 2.000000x_6
    12.0
         -1.000000x_1 - 1.000000x_2 + 2.000000x_3
                                                 +2.000000x_5 -3.000000x_6 -3.000000x_7
x_{15}
    15.0
         -1.000000x_1 -3.000000x_2 +3.000000x_3 -3.000000x_4 +3.000000x_5 \\
x_{16}
    6.0
         x_{17}
    0.0
         -1.000000x_1 - 2.000000x_2
                                       +2.000000x_4 +2.000000x_5 -1.000000x_6 -1.000000x_7
z
```

 x_4 enters and x_8 leaves

```
2.0
       x_4
   11.0
       +3.000000x_1 - 2.000000x_2 + 2.000000x_3
                                          +1.000000x_5 -2.000000x_6 -3.000000x_7
x_9
       8.0
x_{10}
   4.0
       +1.000000x_1 +5.000000x_2 -4.000000x_3 +1.000000x_8 -6.000000x_5
                                                            +2.000000x_7
x_{11}
       +3.000000x_1 +2.000000x_2
   14.0
                                          +2.000000x_5 -3.000000x_6 +2.000000x_7
x_{12}
   5.0
       +1.000000x_1
                         -3.000000x_3 + 1.000000x_8 - 6.000000x_5 + 3.000000x_6 - 4.000000x_7
x_{13}
   7.0
       -3.000000x_1 + 1.000000x_2 + 1.000000x_3
                                          -2.000000x_5 + 2.000000x_6
x_{14}
                                          +2.000000x_5 -3.000000x_6 -3.000000x_7
   12.0
       -1.000000x_1 - 1.000000x_2 + 2.000000x_3
x_{15}
   9.0
       -3.000000x_1
                         +1.000000x_3 +1.000000x_8
                                                   +1.000000x_6 -1.000000x_7
x_{16}
   2.0
       x_{17}
       4.0
```

 x_1 enters and x_{14} leaves

```
3.5555555556
x_4
     18.0
           -1.000000x_{14} - 1.000000x_2 + 3.000000x_3
                                       -1.000000x_5
                                                    -3.000000x_7
x_9
           1.7777777778
x_{10}
x_{11}
  6.33333333333
           21.0
           -1.000000x_{14} + 3.000000x_2 + 1.000000x_3
                                              -1.000000x_6 + 2.000000x_7
x_{12}
  7.33333333333
           x_{13}
  2.33333333333
           -0.333333x_{14} + 0.333333x_2 + 0.333333x_3
                                       -0.666667x_5 + 0.666667x_6
x_1
x_{15}
  9.66666666667
           +0.333333x_{14} -1.333333x_2 +1.666667x_3
                                       +2.666667x_5 -3.666667x_6 -3.000000x_7
           +1.000000x_{14} - 1.000000x_2
                                +1.000000x_8 +2.000000x_5 -1.000000x_6 -1.000000x_7
     2.0
x_{16}
  3.555555556
           x_{17}
  4.7777777778
```

 x_3 enters and x_{17} leaves

```
-0.270270x_{14} - 0.513514x_2 - 0.216216x_{17} - 0.189189x_8 - 0.621622x_5 + 0.135135x_6 + 0.405405x_7
                                                                   4.32432432432
     x_4
                                                                   20.5945945946
                                                                                                                                                                                                                                                         -1.162162x_{14} - 0.108108x_2 - 0.729730x_{17} + 0.486486x_8 - 4.972973x_5 + 0.081081x_6 - 2.756757x_7
     x_9
 x_{10}
                                                                 2.16216216216
                                                                                                                                                                                                                                                       3.16216216216
                                                                                                                                                                                                                                                         -0.135135x_{14} + 4.243243x_2 + 0.891892x_{17} + 0.405405x_8 - 1.810811x_5 + 0.567568x_6 + 1.702703x_7 + 0.405405x_8 + 0.567568x_6 + 0.56766x_6 + 0.567
x_{11}
                                                                   21.8648648649
                                                                                                                                                                                                                                                       -1.054054x_{14} + 3.297297x_2 - 0.243243x_{17} + 0.162162x_8 - 1.324324x_5 - 0.972973x_6 + 2.081081x_7 + 0.062162x_8 - 0.06216x_8 - 0.06216x_
x_{12}
                                                                   5.02702702703
                                                                                                                                                                                                                                                         -0.189189x_{14} - 0.459459x_2 + 0.648649x_{17} + 0.567568x_8 - 3.135135x_5 + 3.594595x_6 - 4.216216x_7 + 0.567566x_8 + 0.56766x_8 +
x_{13}
   x_1
                                                                     2.62162162162
                                                                                                                                                                                                                                                         -0.351351x_{14} + 0.432432x_2 - 0.081081x_{17} + 0.054054x_8 - 1.108108x_5 + 0.675676x_6 + 0.027027x_7 + 0.054054x_8 - 0.027027x_7 + 0.02702
x_{15}
                                                                   11.1081081081
                                                                                                                                                                                                                                                       +0.243243x_{14} - 0.837838x_2 - 0.405405x_{17} + 0.270270x_8 + 0.459459x_5 - 3.621622x_6 - 2.864865x_7 + 0.270270x_8 + 0.459459x_5 - 3.621622x_6 - 0.405405x_7 + 0.270270x_8 + 0.459459x_5 - 0.405405x_7 + 0.270270x_8 + 0.459450x_7 + 0.270270x_8 + 0.459450x_5 + 0.270270x_8 + 0.459450x_5 + 0.270270x_8 + 0.27027
x_{16}
                                                                                                                               2.0
                                                                                                                                                                                                                                                           +1.000000x_{14} -1.000000x_2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                +1.000000x_8 + 2.000000x_5 - 1.000000x_6 - 1.000000x_7
                                                            0.864864864865
                                                                                                                                                                                                                                                         -0.054054x_{14} + 0.297297x_2 - 0.243243x_{17} + 0.162162x_8 - 1.324324x_5 + 0.027027x_6 + 0.081081x_7 + 0.08108
       x_3
                                                               6.02702702703
                                                                                                                                                                                                                                                         z
```

 x_5 enters and x_3 leaves

```
3.91836734694
                                                                                                                                                                x_4
                                                                                                                                                                x_9
                                        17.3469387755
 x_{10}
                                       4.24489795918
                                                                                                                                                               -0.061224x_{14} + 3.836735x_2 + 1.224490x_{17} + 0.183673x_8 + 1.367347x_3 + 0.530612x_6 + 1.591837x_7 + 0.061224x_{14} + 0.061224x_{14} + 0.061224x_{14} + 0.061224x_{15} + 0.06124x_{15} + 0.061224x_{15} + 0.06124x_{15} + 0.0612x_{15} +
x_{11}
                                        1.97959183673
                                                                             21.0
                                                                                                                                                                  -1.000000x_{14} + 3.000000x_2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          +1.000000x_3 -1.000000x_6 +2.000000x_7
x_{12}
x_{13}
                                        2.97959183673
                                                                                                                                                                -0.061224x_{14} - 1.163265x_2 + 1.224490x_{17} + 0.183673x_8 + 2.367347x_3 + 3.530612x_6 - 4.408163x_7 + 0.183673x_8 + 2.367347x_3 + 3.530612x_6 + 2.408163x_7 + 0.183673x_8 + 2.36734x_8 + 2.3674x_8 + 2.3674x_8
                                        1.89795918367
                                                                                                                                                                -0.306122x_{14} + 0.183673x_2 + 0.122449x_{17} - 0.081633x_8 + 0.836735x_3 + 0.653061x_6 - 0.040816x_7 + 0.04081
  x_1
x_{15}
                                        11.4081632653
                                                                                                                                                                3.30612244898
                                                                                                                                                                x_{16}
   x_5
                                        0.65306122449
                                                                                                                                                                  -0.040816x_{14} + 0.224490x_2 - 0.183673x_{17} + 0.122449x_8 - 0.755102x_3 + 0.020408x_6 + 0.061224x_7
                                                                                                                                                                -0.265306x_{14} - 3.040816x_2 - 0.693878x_{17} - 0.204082x_8 - 1.408163x_3 - 1.367347x_6 - 0.102041x_7 - 0.004082x_8 - 0.0040816x_8 - 0.004
                                       7.24489795918
```

 x_{-1} enters and Final Dictionary Solution: 7.24489795918 Num Pivots: 4