```
12.0
          +1.000000x_1
                                 +1.000000x_3 +3.000000x_4 -3.000000x_5 -2.000000x_6 +1.000000x_7
x_8
     3.0
                                             +3.000000x_4 +2.000000x_5 -2.000000x_6 -3.000000x_7
x_9
    13.0
          +3.000000x_1 +2.0000000x_2 +1.0000000x_3
                                                        +2.000000x_5 -3.000000x_6 -2.000000x_7
x_{10}
x_{11}
     5.0
          -3.000000x_1 - 2.000000x_2 - 3.000000x_3 - 3.000000x_4 + 2.0000000x_5
                                                                               -3.000000x_7
                                             -2.000000x_4 + 2.000000x_5 + 2.000000x_6 + 1.000000x_7
     1.0
          +1.000000x_1 -2.000000x_2
x_{12}
    15.0
          x_{13}
     12.0
          x_{14}
x_{15}
     9.0
          +3.000000x_1 +1.000000x_2 +1.000000x_3 +2.000000x_4 +1.000000x_5 +1.000000x_6
          -3.000000x_1 - 2.000000x_2 - 1.000000x_3 + 3.000000x_4 + 3.000000x_5 - 1.000000x_6
     5.0
x_{16}
x_{1\underline{7}}
     4.0
          -3.000000x_1 - 2.000000x_2
                                                        -2.000000x_5 + 2.000000x_6 + 1.000000x_7
                                                        -2.000000x_5 -1.000000x_6 -2.000000x_7
 z
     0.0
          +2.000000x_1 -2.000000x_2 -1.000000x_3
```

No initialization required –; Proceed to Optimize.

```
x_8
     12.0
          +1.000000x_1
                                 +1.000000x_3 +3.000000x_4 -3.0000000x_5 -2.000000x_6 +1.0000000x_7
     3.0
                                            +3.000000x_4 +2.000000x_5 -2.000000x_6 -3.000000x_7
x_9
    13.0
          +3.000000x_1 +2.0000000x_2 +1.0000000x_3
                                                       +2.000000x_5 -3.000000x_6 -2.000000x_7
x_{10}
          -3.000000x_1 - 2.000000x_2 - 3.000000x_3 - 3.000000x_4 + 2.000000x_5
     5.0
                                                                              -3.000000x_7
x_{11}
     1.0
          +1.000000x_1 -2.000000x_2
                                            -2.000000x_4 + 2.000000x_5 + 2.000000x_6 + 1.000000x_7
x_{12}
          15.0
x_{13}
x_{14}
     12.0
          9.0
          +3.000000x_1 + 1.000000x_2 + 1.000000x_3 + 2.000000x_4 + 1.000000x_5 + 1.000000x_6
x_{15}
     5.0
x_{16}
          -3.000000x_1 - 2.000000x_2 - 1.000000x_3 + 3.000000x_4 + 3.000000x_5 - 1.000000x_6
                                                       -2.000000x_5 +2.000000x_6 +1.000000x_7
     4.0
          -3.000000x_1 - 2.000000x_2
x_{17}
     0.0
          +2.000000x_1 -2.000000x_2 -1.000000x_3
                                                       -2.000000x_5 -1.000000x_6 -2.000000x_7
 z
```

 x_1 enters and x_{17} leaves

```
13.3333333333
                   x_8
         3.0
                                                      +3.000000x_4 +2.000000x_5 -2.000000x_6 -3.000000x_7
x_9
         17.0
                   -1.000000x_{17}
                                                                             -1.000000x_6 -1.000000x_7
                                           +1.000000x_3
x_{10}
                                           -3.000000x_3 -3.000000x_4 +4.000000x_5 -2.000000x_6 -4.000000x_7
         1.0
                   +1.000000x_{17}
x_{11}
                   -0.333333x_{17} - 2.666667x_2
                                                      -2.000000x_4 + 1.333333x_5 + 2.666667x_6 + 1.333333x_7
    2.33333333333
x_{12}
         11.0
                   +1.000000x_{17}
                                           +1.000000x_3 +3.000000x_4
                                                                             -3.000000x_6
x_{13}
    9.33333333333
                   +0.666667x_{17}+4.333333x_{2}-2.000000x_{3}+1.000000x_{4}-0.666667x_{5}+1.666667x_{6}+0.333333x_{7}
x_{14}
                   13.0
x_{15}
                                           -1.000000x_3 + 3.000000x_4 + 5.000000x_5 - 3.000000x_6 - 1.000000x_7
x_{16}
         1.0
                   +1.000000x_{17}
     1.33333333333
                   -0.333333x_{17} - 0.666667x_2
                                                                  -0.666667x_5 + 0.666667x_6 + 0.3333333x_7
x_1
                   -0.666667x_{17} -3.333333x_2 -1.000000x_3
                                                                  -3.333333x_5 + 0.333333x_6 - 1.333333x_7
    2.66666666667
```

 x_6 enters and x_{16} leaves

```
12.888888889
                     x_8
     2.33333333333
                     -0.666667x_{17}
                                             +0.666667x_3+1.000000x_4-1.333333x_5+0.666667x_{16}-2.333333x_7
x_9
                     -1.333333x_{17}
                                             +1.333333x_3 - 1.000000x_4 - 1.666667x_5 + 0.3333333x_{16} - 0.666667x_7
     16.666666667
x_{10}
     0.333333333333
                    +0.333333x_{17}
                                             -2.333333x_3 -5.000000x_4 +0.666667x_5 +0.666667x_{16} -3.333333x_7
x_{11}
     3.222222222
                     +0.555556x_{17} - 2.666667x_2 - 0.888889x_3 + 0.666667x_4 + 5.777778x_5 - 0.888889x_{16} + 0.444444x_7
x_{12}
          10.0
                                             +2.000000x_3
                                                                    -5.000000x_5 + 1.000000x_{16} + 1.000000x_7
x_{13}
                     9.8888888889
x_{14}
x_{15}
                                                        +5.000000x_4 +4.000000x_5 -1.000000x_{16}
          14.0
                                 -1.000000x_2
                                             -0.333333x_3 + 1.000000x_4 + 1.666667x_5 - 0.333333x_{16} - 0.333333x_7
     0.3333333333333
                    +0.333333x_{17}
x_6
x_1
     1.5555555556
                     -0.1111111x_{17} - 0.666667x_2 - 0.2222222x_3 + 0.666667x_4 + 0.444444x_5 - 0.222222x_{16} + 0.111111x_7
 z
     2.7777777778
                     -0.555556x_{17} - 3.333333x_2 - 1.111111x_3 + 0.333333x_4 - 2.777778x_5 - 0.1111111x_{16} - 1.444444x_7
```

 x_4 enters and x_{11} leaves

```
-0.666667x_{17} - 0.666667x_2 + 0.666667x_3 - 0.3333333x_{11} - 5.666667x_5 + 0.666667x_{16} + 0.666667x_7 + 0.66667x_7 + 0.666667x_7 + 0.66667x_7 + 0.66667x_7 + 0.66667x_7 + 0.66667x_7 + 0.666667x_7 + 0.666667x_7 + 0.66667x_7 + 0.666667x_7 + 0.666667x_7 + 0.666667x_7 + 0.666667x_7 + 0.666667x_7 + 0.666667x
                              13.0
 x_8
                                2.4
                                                               -0.600000x_{17}
                                                                                                                                     +0.200000x_3 -0.200000x_{11} -1.200000x_5 +0.800000x_{16} -3.000000x_7
 x_9
                                                                                                                                     +1.800000x_3 +0.200000x_{11} -1.800000x_5 +0.200000x_{16}
x_{10}
                              16.6
                                                               -1.400000x_{17}
              0.0666666666667
                                                               +0.066667x_{17}
                                                                                                                                     -0.466667x_3 -0.2000000x_{11} +0.1333333x_5 +0.1333333x_{16} -0.666667x_7
x_4
                                                               +0.600000x_{17} - 2.666667x_2 - 1.200000x_3 - 0.133333x_{11} + 5.866667x_5 - 0.800000x_{16}
                 3.26666666667
x_{12}
                              10.0
                                                                                                                                     +2.000000x_3
                                                                                                                                                                                                            -5.000000x_5 + 1.000000x_{16} + 1.000000x_7
x_{13}
                 10.0666666667
                                                               x_{14}
                 14.33333333333
x_{15}
                                                               x_6
                                0.4
                                                               +0.400000x_{17}
                                                                                                                                      -0.800000x_3 -0.200000x_{11} +1.800000x_5 -0.200000x_{16} -1.000000x_7
                                1.6
                                                               x_1
                                2.8
                                                               z
```

 x_{-1} enters and Final Dictionary Solution: 2.8 Num Pivots: 3