```
8.0
                   +3.000000x_2 +3.000000x_3 +3.000000x_4
                                                           -3.000000x_6 -3.000000x_7
x_8
         14.0
x_9
    7.0
         -2.000000x_1 -3.000000x_2 -2.000000x_3 +2.000000x_4
                                                           -2.000000x_6
x_{10}
x_{11}
    15.0
         +2.000000x_1 + 1.000000x_2 + 2.000000x_3 - 2.000000x_4 + 1.000000x_5 + 2.000000x_6 - 1.000000x_7
    9.0
         x_{12}
    7.0
         +2.000000x_1 -2.000000x_2 +2.000000x_3 -3.000000x_4
                                                           -1.000000x_6 + 3.000000x_7
x_{13}
    6.0
                                                 +2.000000x_5 -1.000000x_6
         +1.000000x_1 +2.000000x_2
x_{14}
x_{15}
    14.0
         -3.000000x_1 + 1.000000x_2 - 3.000000x_3 - 3.000000x_4
                                                           -1.000000x_6 + 1.000000x_7
         8.0
x_{16}
x_{17}
    12.0
                   -2.000000x_2 + 2.000000x_3 + 2.000000x_4 + 1.000000x_5 + 2.000000x_6 + 1.000000x_7
    0.0
z
                             -2.000000x_3 - 2.000000x_4 + 2.000000x_5 + 2.000000x_6 - 2.000000x_7
```

No initialization required –; Proceed to Optimize.

```
x_8
    8.0
                +3.000000x_2 +3.000000x_3 +3.000000x_4
                                                   -3.000000x_6 -3.000000x_7
   14.0
       x_9
   7.0
       -2.000000x_1 -3.000000x_2 -2.000000x_3 +2.000000x_4
x_{10}
                                                   -2.000000x_6
   15.0
       x_{11}
x_{12}
   9.0
       +2.000000x_1 -2.000000x_2 +2.000000x_3 -3.000000x_4
    7.0
                                                   -1.000000x_6 + 3.000000x_7
x_{13}
    6.0
       +1.000000x_1 +2.000000x_2
                                          +2.000000x_5 -1.000000x_6
x_{14}
   14.0
       -3.000000x_1 + 1.000000x_2 - 3.000000x_3 - 3.000000x_4
                                                   -1.000000x_6 + 1.000000x_7
x_{15}
   8.0
x_{16}
       12.0
                -2.000000x_2 + 2.000000x_3 + 2.000000x_4 + 1.000000x_5 + 2.000000x_6 + 1.000000x_7
x_{17}
   0.0
                         -2.000000x_3 -2.000000x_4 +2.0000000x_5 +2.0000000x_6 -2.0000000x_7
z
```

 $x_5$  enters and  $x_{12}$  leaves

```
8.0
                 +3.000000x_2 +3.000000x_3 +3.000000x_4
                                                     -3.000000x_6 -3.000000x_7
x_8
    5.0
        x_9
    7.0
        -2.000000x_1 -3.000000x_2 -2.000000x_3 +2.000000x_4
                                                     -2.000000x_6
x_{10}
x_{11}
   19.5
        4.5
        x_5
   7.0
        +2.000000x_1 -2.000000x_2 +2.000000x_3 -3.000000x_4
                                                     -1.000000x_6 + 3.000000x_7
x_{13}
        15.0
x_{14}
        -3.000000x_1 + 1.000000x_2 - 3.000000x_3 - 3.000000x_4
                                                     -1.000000x_6 + 1.000000x_7
   14.0
x_{15}
   12.5
        +4.000000x_1 + 3.500000x_2 - 3.000000x_3 + 2.000000x_4 - 0.500000x_{12} - 2.500000x_6 - 3.500000x_7
x_{16}
        +1.000000x_1 - 0.500000x_2 + 1.000000x_3 + 3.000000x_4 - 0.500000x_{12} + 0.500000x_6 + 0.500000x_7
   16.5
x_{17}
        +2.000000x_1 +3.000000x_2 -4.000000x_3
                                            -1.000000x_{12} -1.000000x_6 -3.000000x_7
    9.0
```

 $x_1$  enters and  $x_{10}$  leaves

```
8.0
                       +3.000000x_2 +3.000000x_3 +3.000000x_4
                                                                       -3.000000x_6 - 3.000000x_7
x_8
     1.5
          +0.500000x_{10} - 2.500000x_2 + 5.000000x_3 - 5.000000x_4 + 1.000000x_{12} + 6.000000x_6 + 4.000000x_7
x_9
     3.5
          -0.500000x_{10} - 1.500000x_2 - 1.000000x_3 + 1.000000x_4
                                                                       -1.000000x_6
x_1
x_{11}
     30.0
          8.0
          -0.500000x_{10}
                                   -2.000000x_3 + 2.000000x_4 - 0.500000x_{12} - 2.500000x_6 - 0.500000x_7
x_5
     14.0
          -1.000000x_{10} -5.000000x_2
                                              -1.000000x_4
                                                                       -3.000000x_6 + 3.000000x_7
x_{13}
          25.5
x_{14}
x_{15}
          +1.500000x_{10} +5.500000x_2
                                              -6.000000x_4
                                                                       +2.000000x_6 +1.000000x_7
     26.5
          -2.000000x_{10} - 2.500000x_2 - 7.000000x_3 + 6.000000x_4 - 0.500000x_{12} - 6.500000x_6 - 3.500000x_7
x_{16}
          -0.500000x_{10} - 2.000000x_2
                                              +4.000000x_4 - 0.500000x_{12} - 0.5000000x_6 + 0.5000000x_7
x_{17}
     16.0
          -1.000000x_{10}
                                   -6.000000x_3 + 2.000000x_4 - 1.000000x_{12} - 3.000000x_6 - 3.000000x_7
```

 $x_4$  enters and  $x_9$  leaves

```
+0.300000x_{10}+1.500000x_2+6.000000x_3-0.600000x_9+0.600000x_{12}+0.600000x_6-0.600000x_7
   8.9
x_8
   0.3
       x_4
x_1
   3.8
       -0.400000x_{10} -2.000000x_2
                               -0.200000x_9 + 0.200000x_{12} + 0.200000x_6 + 0.800000x_7
   30.6
       -1.300000x_{10} -3.000000x_2
                               -0.400000x_9 -0.100000x_{12} -0.100000x_6 +0.100000x_7
x_{11}
x_5
   8.6
       -0.300000x_{10} -1.000000x_2
                               -0.400000x_9 -0.100000x_{12} -0.100000x_6 +1.100000x_7
   13.7
       x_{13}
x_{14}
   27.0
       -1.000000x_{10} -2.000000x_2
                               -1.000000x_9
                                               -1.000000x_6 + 3.000000x_7
x_{15}
   1.7
       +0.900000x_{10} + 8.500000x_2 - 6.000000x_3 + 1.200000x_9 - 1.200000x_{12} - 5.200000x_6 - 3.800000x_7
x_{16}
       21.2
       x_{17}
       16.6
```

 $x_{-1}$  enters and Final Dictionary Solution: 16.6 Num Pivots: 3