```
6.0
                  +1.000000x_2 -2.000000x_3 +1.000000x_4
x_8
    12.0
         x_9
    9.0
         +1.000000x_1 - 2.000000x_2 - 1.000000x_3 - 3.000000x_4 - 1.000000x_5 - 1.000000x_6
x_{10}
x_{11}
    4.0
         +2.000000x_1 -1.000000x_2 -1.000000x_3 -3.000000x_4
                                                          -1.000000x_6 -3.000000x_7
         13.0
x_{12}
    9.0
         +1.000000x_1 +2.000000x_2 -1.000000x_3
                                                +3.000000x_5 -1.000000x_6 +3.000000x_7
x_{13}
    14.0
        x_{14}
x_{15}
    5.0
                   -3.000000x_2 + 3.000000x_3
                                                +2.000000x_5
    9.0
         -1.000000x_1
                            -2.000000x_3 -3.000000x_4 -1.000000x_5 +1.000000x_6 +3.000000x_7
x_{16}
x_{1\underline{7}}
    4.0
         +3.000000x_1
                            +2.000000x_3 -1.000000x_4 +3.000000x_5 +2.000000x_6 -3.000000x_7
                                                                    +2.000000x_7
    0.0
         +2.000000x_1 +1.000000x_2
                                      +1.000000x_4 -2.000000x_5
 z
```

No initialization required –; Proceed to Optimize.

```
x_8
    6.0
                  +1.000000x_2 -2.000000x_3 +1.000000x_4
    12.0
        x_9
    9.0
        +1.000000x_1 - 2.000000x_2 - 1.000000x_3 - 3.000000x_4 - 1.000000x_5 - 1.000000x_6
x_{10}
    4.0
        +2.000000x_1 -1.000000x_2 -1.000000x_3 -3.000000x_4
x_{11}
                                                         -1.000000x_6 -3.000000x_7
x_{12}
    13.0
        +1.000000x_1 +2.000000x_2 -1.000000x_3
    9.0
                                               +3.000000x_5 -1.000000x_6 +3.000000x_7
x_{13}
    14.0
        x_{14}
    5.0
                  -3.000000x_2 + 3.000000x_3
                                               +2.000000x_5
                                                                   +1.000000x_7
x_{15}
    9.0
                            -2.000000x_3 -3.000000x_4 -1.000000x_5 +1.000000x_6 +3.000000x_7
x_{16}
        -1.000000x_1
    4.0
        +3.000000x_1
                            +2.000000x_3 -1.000000x_4 +3.000000x_5 +2.000000x_6 -3.000000x_7
x_{17}
    0.0
        +2.000000x_1 +1.000000x_2
                                      +1.000000x_4 -2.000000x_5
                                                                   +2.000000x_7
z
```

 x_1 enters and x_{12} leaves

```
6.0
           +1.000000x_2 -2.000000x_3 +1.000000x_4
x_8
  31.5
     x_9
     15.5
x_{10}
x_{11}
  17.0
     -1.000000x_{12} - 4.000000x_2
                              -1.000000x_5 -3.000000x_6 -1.000000x_7
     6.5
x_1
  15.5
     x_{13}
     -1.000000x_{12} - 2.000000x_2 + 2.000000x_3 + 2.000000x_4 - 2.000000x_5 - 3.000000x_6
  27.0
x_{14}
  5.0
            -3.000000x_2 + 3.000000x_3
                              +2.000000x_5
x_{15}
     2.5
x_{16}
  23.5
     -1.500000x_{12} - 4.500000x_2 + 3.500000x_3 + 3.500000x_4 + 1.500000x_5 - 1.000000x_6
x_{17}
     13.0
```

 x_3 enters and x_{16} leaves

```
4.0
x_8
 31.0
   x_9
 15.0
   x_{10}
 17.0
   -1.000000x_{12} - 4.000000x_2
                 -1.000000x_5 -3.000000x_6 -1.000000x_7
x_{11}
   7.0
x_1
   x_{13}
 15.0
 29.0
   x_{14}
x_{15}
   1.0
   +0.200000x_{12} + 0.600000x_2 - 0.400000x_{16} - 1.800000x_4 - 0.200000x_5 + 0.800000x_6 + 0.800000x_7
x_3
   27.0
x_{17}
   14.0
```

 x_4 enters and x_3 leaves

```
6.5555555556
                                                        +0.1111111x_{12}+1.333333x_2-0.222222x_{16}-2.555556x_3-0.1111111x_5+0.444444x_6+0.444444x_7
 x_8
                                                         -0.777778x_{12} - 0.333333x_2 - 1.4444444x_{16} - 4.1111111x_3 - 3.222222x_5 + 1.888889x_6 + 3.888889x_7
 x_9
               35.11111111111
                                                         x_{10}
               14.6666666667
                           17.0
                                                         -1.000000x_{12} -4.000000x_2
                                                                                                                                                                                            -1.000000x_5 -3.000000x_6 -1.000000x_7
x_{11}
               7.333333333333
                                                        x_1
                                                         -0.3333333x_{12} + 1.000000x_2 - 0.3333333x_{16} - 1.3333333x_3 + 2.333333x_5 - 1.333333x_6 + 4.666667x_7 - 1.3333333x_6 + 4.666667x_7 - 1.333333x_6 + 4.666667x_7 - 1.33333x_6 + 4.666667x_7 - 1.3333x_6 + 4.666667x_7 - 1.3335x_6 + 4.666667x_7 - 1.333x_6 + 4.666667x_7 - 1.33x_6 + 4.666667x_7 - 1.35x_6 + 4.66667x_7 - 1.35x_6 + 4.666667x_7 - 1.55x_6 + 4.66667x_7 - 1.55x_6 + 4.666667x_7 - 1.55x_6 + 4.66667x_7 - 1.55x_6 + 4.55x_6 + 4.
               16.3333333333
x_{13}
               28.11111111111
                                                         -0.777778x_{12} - 1.333333x_2 - 0.444444x_{16} + 0.888889x_3 - 2.222222x_5 - 2.111111x_6 + 0.888889x_7
x_{14}
x_{15}
                             5.0
                                                                                           -3.000000x_2
                                                                                                                                                            +3.000000x_3 +2.000000x_5
                                                                                                                                                                                                                                                            +1.000000x_7
             0.55555555556
                                                        +0.1111111x_{12}+0.333333x_2-0.222222x_{16}-0.555556x_3-0.111111x_5+0.444444x_6+0.444444x_7
x_4
                                                         25.444444444
x_{17}
              15.222222222
                                                         z
```

 x_7 enters and x_{11} leaves

```
14.1111111111
                                                      x_8
                                                      -4.666667x_{12} - 15.888889x_2 - 1.4444444x_{16} - 4.111111x_3 - 7.111111x_5 - 9.777778x_6 - 3.888889x_{11}
 x_9
             101.22222222
x_{10}
             20.3333333333
                                                     -1.000000x_{12} -5.3333333x_2 +0.3333333x_{16} +0.3333333x_3 -1.666667x_5 -3.666667x_6 -0.3333333x_{11}
                                                                                                                                                                                             -1.000000x_5 -3.000000x_6 -1.000000x_{11}
                          17.0
                                                      -1.000000x_{12} -4.000000x_2
x_7
             35.6666666667
                                                      -2.000000x_{12} - 7.666667x_2 - 0.3333333x_{16} - 0.3333333x_3 - 2.333333x_5 - 5.333333x_6 - 1.666667x_{11} - 0.3333333x_{16} - 0.3333333x_{16} - 0.3333333x_{16} - 0.3333333x_{16} - 0.3333330x_{16} - 0.3333333x_{16} - 0.333333x_{16} - 0.33333x_{16} - 0.3333x_{16} - 0.3333x_{16} - 0.333x_{16} - 0.33x_{16} - 0.30x_{16} - 0.00x_{16} - 0.
x_1
x_{13}
             95.6666666667
                                                      -5.000000x_{12} - 17.666667x_2 - 0.3333333x_{16} - 1.3333333x_3 - 2.333333x_5 - 15.333333x_6 - 4.666667x_{11}
             43.22222222
                                                      -1.666667x_{12} -4.888889x_2 -0.4444444x_{16} +0.888889x_3 -3.111111x_5 -4.777778x_6 -0.888889x_{11}
x_{14}
x_{15}
                         22.0
                                                      -1.000000x_{12} -7.000000x_2
                                                                                                                                                             +3.000000x_3 +1.000000x_5 -3.000000x_6 -1.000000x_{11}
             8.111111111111
                                                      x_4
             51.888888889
                                                      -2.666667x_{12} -9.555556x_2 -0.777778x_{16} + 1.555556x_3 - 0.444444x_5 -4.111111x_6 -1.555556x_{11}
x_{17}
                                                     113.44444444
```

 x_{-1} enters and Final Dictionary Solution: 113.44444444 Num Pivots: 4