```
13.0
          -2.000000x_1 + 3.000000x_2
                                            +3.000000x_4 +1.000000x_5 +3.000000x_6 +3.000000x_7
x_8
     14.0
          +2.000000x_1 -3.000000x_2 +3.000000x_3 +1.000000x_4
                                                                   -3.000000x_6 + 2.000000x_7
x_9
     9.0
                                 -2.000000x_3 -3.000000x_4
          -2.000000x_1
                                                                   -1.000000x_6 + 3.000000x_7
x_{10}
x_{11}
     6.0
          +1.000000x_1 + 2.000000x_2 - 1.000000x_3 - 3.000000x_4 - 2.000000x_5 - 2.000000x_6
          4.0
x_{12}
    10.0
          +3.000000x_1 - 1.000000x_2
                                                        +2.000000x_5 +3.000000x_6 +2.000000x_7
x_{13}
          +1.000000x_1 -2.000000x_2 -2.000000x_3
    13.0
                                                       +2.000000x_5 -1.000000x_6 -1.000000x_7
x_{14}
x_{15}
    13.0
                     -3.000000x_2 + 2.000000x_3 + 2.0000000x_4 + 1.0000000x_5 + 1.0000000x_6
    11.0
          +1.000000x_1 -1.000000x_2
                                            +2.000000x_4
                                                                   -2.000000x_6 + 2.000000x_7
x_{16}
x_{1\underline{7}}
     2.0
          +1.000000x_1 +2.000000x_2 -2.000000x_3
                                                       +1.000000x_5 +2.000000x_6 -2.000000x_7
     0.0
```

No initialization required –; Proceed to Optimize.

```
x_8
          -2.000000x_1 + 3.000000x_2
                                           +3.000000x_4 +1.000000x_5 +3.000000x_6 +3.000000x_7
         +2.000000x_1 -3.000000x_2 +3.000000x_3 +1.000000x_4 \\
    14.0
                                                                  -3.000000x_6 + 2.000000x_7
x_9
     9.0
                                -2.000000x_3 -3.000000x_4
                                                                  -1.000000x_6 + 3.000000x_7
x_{10}
     6.0
          +1.000000x_1 + 2.000000x_2 - 1.000000x_3 - 3.000000x_4 - 2.000000x_5 - 2.000000x_6
x_{11}
x_{12}
     4.0
          +3.000000x_1 -1.000000x_2
    10.0
                                                       +2.000000x_5 +3.000000x_6 +2.000000x_7
x_{13}
          +1.0000000x_1-2.0000000x_2-2.0000000x_3\\
                                                       +2.000000x_5 -1.000000x_6 -1.000000x_7
x_{14}
    13.0
    13.0
                     -3.000000x_2 + 2.000000x_3 + 2.000000x_4 + 1.000000x_5 + 1.000000x_6
x_{15}
    11.0
x_{16}
          +1.0000000x_1 -1.0000000x_2
                                           +2.000000x_4
                                                                  -2.000000x_6 + 2.000000x_7
     2.0
          x_{17}
     0.0
          +1.000000x_1 +2.000000x_2 -2.000000x_3
                                                       +1.000000x_5 +2.000000x_6 -2.000000x_7
z
```

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

```
+1.000000x_{10} +3.000000x_2 +2.000000x_3 +6.000000x_4 +1.000000x_5 +4.000000x_6
x_8
   4.0
   23.0
       -1.000000x_{10} -3.000000x_2 +1.000000x_3 -2.000000x_4
                                              -4.000000x_6 + 5.000000x_7
x_9
                       -1.000000x_3 - 1.500000x_4
                                              -0.500000x_6 + 1.500000x_7
   4.5
       -0.500000x_{10}
x_1
   10.5
       x_{11}
   13.0
       -1.000000x_{10} + 2.000000x_2 - 1.000000x_3 - 5.000000x_4 + 1.000000x_5 + 2.000000x_6 + 1.000000x_7
x_{12}
   23.5
       x_{13}
       17.5
x_{14}
   13.0
               -3.000000x_2 + 2.000000x_3 + 2.000000x_4 + 1.000000x_5 + 1.000000x_6
x_{15}
   15.5
       -0.500000x_{10} -1.000000x_2 -1.000000x_3 +0.500000x_4
                                              -2.500000x_6 + 3.500000x_7
x_{16}
       x_{17}
   6.5
       4.5
```

 $x_2$  enters and  $x_{15}$  leaves

```
17.0
            +1.000000x_{10} - 1.000000x_{15} + 4.000000x_3 + 8.000000x_4 + 2.000000x_5 + 5.000000x_6
x_8
      10.0
            x_9
      4.5
            -0.500000x_{10}
                            -1.000000x_3 - 1.500000x_4
                                                  -0.500000x_6 + 1.500000x_7
x_1
x_{11}
   19.1666666667
            -0.500000x_{10} - 0.666667x_{15} - 0.666667x_3 - 3.166667x_4 - 1.333333x_5 - 1.833333x_6 + 1.500000x_7
            21.6666666667
x_{12}
   19.166666667
            x_{13}
   8.83333333333
            x_{14}
   4.33333333333
                    -0.333333x_{15} + 0.666667x_3 + 0.666667x_4 + 0.333333x_5 + 0.333333x_6
x_2
            11.1666666667
x_{16}
x_{1\underline{7}}
   2.16666666667
            13.1666666667
            -0.500000x_{10} - 0.666667x_{15} - 1.666667x_3 - 0.166667x_4 + 1.666667x_5 + 2.166667x_6 - 0.500000x_7
```

 $x_5$  enters and  $x_9$  leaves

```
37.0
                                                                                                                                                                                                                       -1.000000x_{10} + 1.000000x_{15} + 2.000000x_3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -2.000000x_9 -5.000000x_6 +10.000000x_7
    x_8
                                                                                                       10.0
                                                                                                                                                                                                                       -1.000000x_{10} + 1.000000x_{15} - 1.000000x_3 - 4.000000x_4 - 1.000000x_9 - 5.000000x_6 + 5.000000x_7
    x_5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -1.000000x_3 -1.500000x_4
    x_1
                                                                                                           4.5
                                                                                                                                                                                                                       -0.500000x_{10}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -0.500000x_6 + 1.500000x_7
                                                      5.83333333333
                                                                                                                                                                                                                    +0.833333x_{10} - 2.000000x_{15} + 0.666667x_3 + 2.166667x_4 + 1.333333x_9 + 4.833333x_6 - 5.166667x_7 + 1.333333x_9 + 1.33333x_9 + 1.333333x_9 + 1.33333x_9 + 1.3333x_9 + 1.333x_9 
 x_{11}
                                                                                                                                                                                                                      -2.666667x_{10} + 1.000000x_{15} - 1.3333333x_3 - 10.333333x_4 - 1.666667x_9 - 5.666667x_6 + 9.333333x_7 - 10.333333x_7 - 10.33333x_7 - 10.333333x_7 - 10.333333x_7 - 10.333333x_7 - 10.33333x_7 - 10.3333x_7 - 10.333x_7 - 10.333x_7 - 10.333x_7 - 10.333x_7 - 10.33x_7 - 10.33x_7
                                                      38.3333333333
x_{12}
                                                      35.8333333333
                                                                                                                                                                                                                      -3.166667x_{10} + 2.000000x_{15} - 5.333333x_3 - 11.833333x_4 - 1.666667x_9 - 7.166667x_6 + 14.833333x_7 - 11.833333x_7 - 11.83333x_7 - 11.8333x_7 - 11.8333x_7 - 11.8333x_7 - 11.8333x_7 - 11.833x_7 - 11.833x_7 - 11.833x_7 - 11.833x_7 - 11.83x_7 
x_{13}
                                                      22.1666666667
                                                                                                                                                                                                                       -1.833333x_{10} + 2.000000x_{15} - 5.666667x_3 - 8.166667x_4 - 1.333333x_9 - 8.833333x_6 + 7.166667x_7
 x_{14}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  +0.333333x_3 -0.666667x_4 -0.333333x_9 -1.333333x_6 +1.666667x_7
    x_2
                                                      7.66666666667
                                                                                                                                                                                                                      -0.333333x_{10}
x_{16}
                                                    7.83333333333
                                                                                                                                                                                                                      -0.166667x_{10}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -1.333333x_3 +1.166667x_4 +0.333333x_9 -1.166667x_6 +1.833333x_7
                                                    8.83333333333
                                                                                                                                                                                                                       -1.166667x_{10} + 1.000000x_{15} - 5.333333x_3 - 5.833333x_4 - 0.666667x_9 - 1.166667x_6 + 5.833333x_7 - 5.833333x_8 - 5.83333x_8 - 5.8333x_8 - 5.8333x_8 - 5.8333x_8 - 5.833x_8 - 5.833x_8 - 5.833x_8 - 5.833x_8 - 5.833x_8 - 5.83x_8 - 5.83x_
                                                    29.8333333333
                                                                                                                                                                                                                      -2.166667x_{10} + 1.000000x_{15} - 3.333333x_3 - 6.833333x_4 - 1.666667x_9 - 6.166667x_6 + 7.833333x_7 - 6.833333x_7 - 6.833333x_8 - 6.83333x_8 - 6.8333x_8 - 6.8333x_8 - 6.8333x_8 - 6.833x_8 - 6.833x_8 - 6.833x_8 - 6.833x_8 - 6.833x_8 - 6.833x_8 - 6.83x_8 - 6.83x_8
           z
```

 $x_7$  enters and  $x_{11}$  leaves

```
48.2903225806
                                                      +0.612903x_{10} - 2.870968x_{15} + 3.290323x_3 + 4.193548x_4 + 0.580645x_9 + 4.354839x_6 - 1.935484x_{11}
 x_8
             15.6451612903
                                                      -0.193548x_{10} - 0.935484x_{15} - 0.354839x_3 - 1.903226x_4 + 0.290323x_9 - 0.322581x_6 - 0.967742x_{11}
 x_5
              6.1935483871
                                                      x_1
                                                      +0.161290x_{10} - 0.387097x_{15} + 0.129032x_3 + 0.419355x_4 + 0.258065x_9 + 0.935484x_6 - 0.193548x_{11}
             1.12903225806
 x_7
             48.8709677419
                                                      -1.161290x_{10} - 2.612903x_{15} - 0.129032x_3 - 6.419355x_4 + 0.741935x_9 + 3.064516x_6 - 1.806452x_{11} - 0.006452x_{12} - 0.006452x_{13} - 0.006452x_{14} - 0.006452x_{15} - 0.00642x_{15} - 0.0064x_{15} 
x_{12}
x_{13}
             52.5806451613
                                                      -0.774194x_{10} -3.741935x_{15} -3.419355x_3 -5.612903x_4 +2.161290x_9 +6.709677x_6 -2.870968x_{11}
             30.2580645161
                                                      x_{14}
 x_2
             9.54838709677
                                                      -0.064516x_{10} - 0.645161x_{15} + 0.548387x_3 + 0.032258x_4 + 0.096774x_9 + 0.225806x_6 - 0.322581x_{11}
             9.90322580645
                                                      x_{16}
x_{17}
             15.4193548387
                                                      -0.225806x_{10} -1.258065x_{15} -4.580645x_3 -3.387097x_4 +0.838710x_9 +4.290323x_6 -1.129032x_{11}
                                                      -0.903226x_{10} - 2.032258x_{15} - 2.322581x_3 - 3.548387x_4 + 0.354839x_9 + 1.161290x_6 - 1.516129x_{11}
             38.6774193548
```

 $x_6$  enters and  $x_{14}$  leaves

```
110.181818182
                                                                                                                                                 x_8
                                                                                                                                                   11.0606060606
  x_5
                                     19.0303030303
                                                                                                                                                 x_1
                                     14.4242424242
                                                                                                                                                 x_7
                                    92.4242424242
                                                                                                                                                   -2.136364x_{10} - 3.727273x_{15} - 6.954545x_3 - 13.848485x_4 + 1.484848x_9 - 1.439394x_{14} - 3.803030x_{11} + 1.484848x_9 - 1.439394x_{14} - 3.803030x_{11} + 1.484848x_{10} - 1.439394x_{14} - 3.803030x_{11} + 1.484848x_{10} - 1.439394x_{14} - 3.803030x_{11} + 1.484848x_{10} - 1.439394x_{14} - 3.803030x_{11} + 1.48484x_{10} - 1.439394x_{14} - 3.803030x_{11} + 1.48484x_{10} - 1.439394x_{14} - 3.803030x_{11} + 1.48484x_{10} - 1.4844x_{10} 
  x_{12}
                                     147.939393939
                                                                                                                                                   -2.909091x_{10} -6.181818x_{15} -18.363636x_3 -21.878788x_4 +3.787879x_9 -3.151515x_{14} -7.242424x_{11} -7.242424x_{12} -7.242424x_{13} -7.242424x_{14} -7.242424x_{15} -7.24244x_{15} -7.24244x_{15} -7.2424x_{15} -7.2424x_
 x_{13}
                                                                                                                                                 14.2121212121
  x_6
  x_2
                                     12.7575757576
                                                                                                                                                   -0.136364x_{10} - 0.727273x_{15} + 0.045455x_3 - 0.515152x_4 + 0.151515x_9 - 0.106061x_{14} - 0.469697x_{11} + 0.045455x_3 - 0.045455x_4 + 0.045455x_4 + 0.045455x_5 - 0.045455x_5 + 0.045455x_5 - 0.045455x_5 + 0.045455x_5 - 0.045455x_5 + 0.045455x_5 - 0.045455x_5 - 0.045455x_5 + 0.045455x_5 - 0.045455x_5 + 0.045455x_5 - 0
                                                                                                                                                   17.696969697
x_{16}
                                     76.3939393939
                                                                                                                                                   -1.590909x_{10} - 2.818182x_{15} - 14.136364x_3 - 13.787879x_4 + 1.878788x_9 - 2.015152x_{14} - 3.924242x_{11} - 3.924242x_{12} - 3.924242x_{13} - 3.924242x_{14} - 3.924242x_{15} - 3.92424x_{15} - 3.92424x_{15} - 3.92424x_{15} - 3.92424x_{15} - 3.9242x_{15} - 3.92424x_{15} - 3.92424
x_{17}
                                                                                                                                                 55.1818181818
```

 $x_9$  enters and Unbounded Dictionary!