```
7.0
     -1.000000x_1
                  x_{15}
  4.0
     +2.000000x_1 +2.000000x_2 +3.000000x_3 +1.000000x_4 +3.000000x_5
                                           +3.000000x_7 +1.000000x_8 -3.00
x_{16}
  1.0
     x_{17}
x_{18}
  15.0
     -3.000000x_1 + 2.000000x_2 + 1.000000x_3 - 1.000000x_4
                                     -1.000000x_6
                                                  +2.000000x_8
     7.0
  10.0
     -3.000000x_1 - 2.000000x_2 - 2.000000x_3 - 3.000000x_4
                                     +1.000000x_6 +1.000000x_7 +2.000000x_8 -2.000000x_8
x_{20}
            3.0
x_{21}
x_{22}
  14.0
     +1.000000x_1 +1.000000x_2 +1.000000x_3
                               +2.000000x_5 +2.000000x_6
                                                  -3.000000x_8 + 1.00
     14.0
x_{23}
x_{24}
  3.0
            12.0
     +3.000000x_1 + 2.000000x_2 - 2.000000x_3 - 2.000000x_4 + 2.000000x_5
                                           -2.000000x_7 - 2.0000000x_8
x_{25}
  3.0
     x_{26}
     8.0
x_{27}
                                           +3.000000x_7 +2.000000x_8 -1.00
  15.0
     -3.000000x_1 - 1.000000x_2 + 3.000000x_3 + 1.000000x_4 + 2.000000x_5
x_{28}
                                     4.0
     -3.000000x_1 + 3.000000x_2 + 1.000000x_3 + 2.000000x_4
x_{29}
  0.0
```

No initialization required –; Proceed to Optimize.

```
7.0
                    -1.000000x_1
x_{15}
x_{16}
   4.0
      +2.000000x_1 +2.000000x_2 +3.000000x_3 +1.000000x_4 +3.000000x_5
                                                +3.000000x_7 +1.000000x_8 -3.00
   1.0
      x_{17}
  15.0
                                         -1.000000x_6
x_{18}
      -3.000000x_1 + 2.000000x_2 + 1.000000x_3 - 1.000000x_4
                                                      +2.000000x_8
      7.0
x_{19}
  10.0
      -3.000000x_1 - 2.000000x_2 - 2.000000x_3 - 3.000000x_4
                                        +1.000000x_6 +1.000000x_7 +2.000000x_8 -2.000000x_8
x_{20}
   3.0
             x_{21}
                                  +2.000000x_5 +2.000000x_6
  14.0
      +1.000000x_1 +1.000000x_2 +1.000000x_3
                                                      -3.000000x_8 + 1.00
x_{22}
      14.0
x_{23}
   3.0
             +1.000000x_2 +1.000000x_3 -1.000000x_4 -3.000000x_5 -3.000000x_6 -3.000000x_7
x_{24}
      +3.000000x_1 +2.000000x_2 -2.000000x_3 -2.000000x_4 +2.000000x_5
   12.0
                                                -2.000000x_7 - 2.000000x_8
x_{25}
   3.0
      x_{26}
   8.0
      x_{27}
                                               +3.000000x_7 +2.000000x_8 -1.00
   15.0
      -3.000000x_1 - 1.000000x_2 + 3.000000x_3 + 1.000000x_4 + 2.000000x_5
x_{28}
   4.0
      -3.000000x_1 + 3.000000x_2 + 1.000000x_3 + 2.000000x_4
                                        x_{29}
      0.0
```

 $x_5$  enters and  $x_{24}$  leaves

```
-1.000000x_1 - 0.666667x_2 + 1.333333x_3 + 2.666667x_4 + 0.666667x_{24} - 1.000000x_6
                                                        +1.000000x_8 - 2.0
x_{15}
   7.0
      +2.000000x_1 +3.000000x_2 +4.000000x_3
                                  -1.000000x_{24} -3.000000x_6
                                                        +1.0000000x_8 -3.0
x_{16}
   2.0
      x_{17}
x_{18}
   15.0
      -3.000000x_1 + 2.000000x_2 + 1.000000x_3 - 1.000000x_4
                                          -1.000000x_6
                                                        +2.000000x_8
      -1.000000x_1 -3.666667x_2 +2.333333x_3 -1.333333x_4 +0.666667x_{24}
   5.0
                                                 +5.000000x_7
x_{19}
   10.0
      -3.000000x_1 - 2.000000x_2 - 2.000000x_3 - 3.000000x_4
                                          x_{20}
             1.0
x_{21}
x_{22}
   16.0
      +1.000000x_1 +1.666667x_2 +1.666667x_3 -0.666667x_4 -0.666667x_{24}
                                                 -2.000000x_7 -3.000000x_8 +1.0
   12.0
      x_{23}
x_5
   1.0
             +0.333333x_2+0.333333x_3-0.333333x_4-0.333333x_{24}-1.000000x_6-1.000000x_7
      x_{25}
   14.0
   0.0
      -3.000000x_1 - 4.000000x_2 + 1.000000x_3 + 2.000000x_4 + 1.000000x_{24}
                                                 x_{26}
                    -1.000000x_1
x_{27}
   11.0
      17.0
x_{28}
      -3.000000x_1 + 3.000000x_2 + 1.000000x_3 + 2.000000x_4
                                          4.0
x_{29}
      2.0
```

 $x_8$  enters and  $x_{26}$  leaves

```
x_{15}
 5.0
 7.0
   x_{16}
   x_{17}
 2.0
 15.0
   x_{18}
 5.0
   -1.000000x_1 -3.666667x_2 +2.333333x_3 -1.333333x_4 +0.666667x_{24}
                           +5.000000x_7
 10.0
   x_{20}
 1.0
   x_{21}
x_{22}
 16.0
   +5.500000x_1 + 7.666667x_2 + 0.166667x_3 - 3.666667x_4 - 2.166667x_{24}
                           -9.500000x_7 + 1.500000x_{26} + 4
x_{23}
 12.0
   1.0
       +0.333333x_2+0.333333x_3-0.333333x_4-0.333333x_{24}-1.000000x_6-1.000000x_7
x_5
   14.0
x_{25}
 0.0
   -1.500000x_1 - 2.000000x_2 + 0.500000x_3 + 1.000000x_4 + 0.500000x_{24}
                           +2.500000x_7 - 0.500000x_{26} - 1.
x_8
   x_{27}
 11.0
x_{28}
 17.0
   x_{29}
 4.0
 2.0
   z
```

 $x_{14}$  enters and  $x_{17}$  leaves

```
5.60869565217
                                                                                                                                                                                                                                                -1.434783x_1 - 1.652174x_2 + 2.086957x_3 + 2.956522x_4 + 0.913043x_{24} - 1.913043x_6 + 2.347826x_7 - 0.34x_{24} + 0.913043x_{24} - 0.913043x_{24} + 0.91304x_{24} + 0.9
x_{15}
                                                                                                                                                                                                                                              +3.695652x_1 + 4.043478x_2 + 5.260870x_3 - 1.130435x_4 - 1.260870x_{24} - 5.739130x_6 + 2.043478x_7 - 0.04x_{12} + 2.043478x_{12} + 0.043478x_{13} + 0.043478x_{14} + 0.043478x_{15} + 0.043478
                                                                8.82608695652
 x_{16}
                                                                                                                                                                                                                                             +0.913043x_1+0.869565x_2+0.217391x_3-0.608696x_4-0.217391x_{24}-0.782609x_6-0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.130435x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.13045x_7+0.1304x_7+0.1304x_7+0.1304x_7+0.1304x_7+0.1304x_7+0.1304x_7+0.1304x_7+0.1304x_7+0.1304x_7+0.1304x_7+0.1304x_7+0.1304
                                                         0.521739130435
 x_{14}
                                                                16.0434782609
                                                                                                                                                                                                                                              -4.173913x_1 - 0.260870x_2 + 2.434783x_3 - 0.217391x_4 + 0.565217x_{24} - 2.565217x_6 + 4.739130x_7 - 0.73
 x_{18}
                                                                                                                                                                                                                                              5.34782608696
   x_{19}
                                                                                                                                                                                                                                              -4.173913x_{1} - 4.260870x_{2} - 0.565217x_{3} - 2.217391x_{4} + 0.565217x_{24} - 0.565217x_{6} + 5.739130x_{7} - 0.73x_{1} + 0.565217x_{1} + 0.565217x_{2} + 0.565217x_{3} + 0.565217x_{1} + 0.565217x_{2} + 0.565217x_{3} + 0.565217x_{3} + 0.565217x_{4} + 0.565217x_{5} 
                                                                11.0434782609
   x_{20}
                                                                                                                                                                                                                                           +3.739130x_1 + 7.608696x_2 - 4.347826x_3 - 2.826087x_4 - 0.652174x_{24} + 3.652174x_6 - 3.391304x_7 + 1.39130x_1 + 2.6626087x_4 - 0.662174x_{24} + 3.662174x_6 - 3.391304x_7 + 1.39130x_7 + 1.3910x_7 + 1.
                                                          0.565217391304
   x_{21}
                                                                                                                                                                                                                                                -0.130435x_1 + 2.304348x_2 - 1.173913x_3 + 0.086957x_4 - 0.826087x_{24} + 4.826087x_6 - 8.695652x_7 + 0.6987x_{12} + 0.086957x_{13} + 0.086957x_{14} + 0.086957x_{14} + 0.086957x_{15} + 0.08697x_{15} + 0.08697x_{15} + 0.08697x_{15} + 0.08697x_{15} + 0.08697x_{15} + 0.08697x_{1
 x_{22}
                                                                12.7826086957
                                                                                                                                                                                                                                              +0.739130x_1 -0.391304x_2 -2.347826x_3 -0.826087x_4 +1.347826x_{24} +3.652174x_6 +3.608696x_7 -0.60
                                                                11.5652173913
   x_{23}
                                                          0.826086956522
                                                                                                                                                                                                                                              x_5
                                                                                                                                                                                                                                             13.1304347826
     x_{25}
                                                                                                                                                                                                                                                -0.130435x_1 - 0.695652x_2 + 0.826087x_3 + 0.086957x_4 + 0.173913x_{24} - 1.173913x_6 + 2.304348x_7 - 0.30436x_7 + 0.00466x_7 + 0.004
                                                         0.782608695652
     x_8
                                                                                                                                                                                                                                                -2.304348x_{1} - 2.956522x_{2} + 6.260870x_{3} - 3.130435x_{4} - 0.260870x_{24} - 3.739130x_{6} + 5.043478x_{7} - 1.04x_{7} + 0.043478x_{7} - 0.043478x_{7} 
                                                                12.8260869565
     x_{27}
                                                                                                                                                                                                                                             18.2173913043
   x_{28}
                                                                 1.13043478261
                                                                                                                                                                                                                                              x_{29}
                                                                                                                                                                                                                                                -2.739130x_{1} - 2.608696x_{2} - 0.652174x_{3} - 1.173913x_{4} - 0.347826x_{24} - 4.652174x_{6} - 0.608696x_{7} - 0.398606x_{7} - 0.008696x_{7} - 0.00866x_{7} - 0.00866x_
                                                                      2.4347826087
```

 $x_{-1}$  enters and Final Dictionary Solution: 2.4347826087 Num Pivots: 3