```
A = [400 200 150 500; 3 2 0 0; 2 2 4 4; 2 4 1 5];
A = [A -eye(4)];
b = [500 6 10 8];
c = -sum(A, 1);
x_sol = my_simplex(c, A, b);


it =

     0

      4/5          2/5          3/10          1          -1/500
       0            0             0          1/500         0
       0            0             1
       3            2             0          0             0
      -1            0             0          0             1
       0            0             6
     -6/5          2/5          14/5          0           1/125
       0           -1             0         -1/125         0
       1            0             6
      -2            2          -1/2          0           1/100
       0            0            -1         -1/100         0
       0            1             3
      1/5         -22/5        -23/10          0          -1/56
       1            1             1          57/56         0
       0            0           509

it =

     1

      6/5          0             2/5          1          -1/250
       0            0             1/5          1/250         0
       0         -1/5             2/5
       5            0             1/2          0          -1/100
      -1            0             1           1/100         1
       0           -1             3
     -4/5          0            29/10          0           1/167
       0           -1             1/5         -1/167         0
       1         -1/5            27/5
      -1            1            -1/4          0           1/200
       0            0            -1/2         -1/200         0
       0          1/2             3/2
    -21/5          0           -17/5          0           1/250
       1            1            -6/5        249/250         0
       0          11/5         2578/5

it =

     2
```

```
        1          0        1/3        5/6       -1/300
        0          0        1/6        1/300       0
        0       -1/6        1/3
        0          0       -7/6       -25/6       1/150
       -1          0        1/6       -1/150      1
        0       -1/6        4/3
        0          0       19/6        2/3        1/300
        0         -1        1/3       -1/300      0
        1       -1/3       17/3
        0          1        1/12       5/6        1/600
        0          0       -1/3       -1/600      0
        0        1/3       11/6
        0          0         -2        7/2       -1/100
        1          1       -1/2      101/100      0
        0        3/2        517

it =

     3

        3          0         1         5/2       -1/100
        0          0        1/2        1/100       0
        0       -1/2         1
      7/2          0         0        -5/4       -1/200
       -1          0        3/4        1/200       1
        0       -3/4        5/2
   -19/2            0         0       -29/4       1/29
        0         -1       -5/4       -1/29        0
        1        5/4        5/2
     -1/4          1         0         5/8        1/400
        0          0       -3/8       -1/400       0
        0        3/8        7/4
        6          0         0        17/2       -1/33
        1          1        1/2       34/33        0
        0        1/2        519

it =

     4

      2/7          0         1         3/7         0
        0       -2/7        1/7         0          0
      2/7       -1/7       12/7
     15/7          0         0       -16/7        0
       -1       -1/7        4/7         0          1
      1/7       -4/7       20/7
 -1900/7            0         0     -1450/7        1
        0       -200/7    -250/7        -1         0
    200/7        250/7     500/7
      3/7            1         0         8/7        0
        0         1/14      -2/7         0          0
     -1/14         2/7       11/7
```

```
    -15/7            0            0          16/7            0
      1            1/7         -4/7             1            0
      6/7         11/7      3648/7


it =

     5

      0            0            1          11/15            0
     2/15        -4/15        1/15             0        -2/15
     4/15        -1/15        4/3
      1            0            0         -16/15            0
    -7/15        -1/15        4/15             0         7/15
     1/15        -4/15        4/3
      0            0            0       -1490/3            1
   -380/3       -140/3       110/3            -1       380/3
    140/3       -110/3      1300/3
      0            1            0          8/5            0
     1/5          1/10        -2/5             0        -1/5
    -1/10         2/5          1
      0            0            0             0            0
      0            0            0             1            1
      1            1          524
Solution is optimal, stop
```

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