```
D:\Python\Python\setroute\python.exe "D:\Python\Pycharm\setroute\PyCharm Community Edition 2021.2.3\plugins\python-ce\helpers\pydev\pydevconsole.py" --
   mode=client --port=37660
 2
 3
   import sys; print('Python %s on %s' % (sys.version, sys.platform))
   6
   PyDev console: starting.
 8 Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32
   main RO CCG.py', wdir='E:/1 0000/3 00000/1 000000/1 0000000/1 000000/1 LW 00001/4 0000/3 python_code/9 Code for
10 Backend TkAgg is interactive backend. Turning interactive mode on.
11
   Waiting 5s.....
   Optimize the ./R 10 3.xlsx instance by CCG
13
14
15
        Master protblem status = 2, is Optimal and MP obj = 583.0
16
   The initial lb = -inf
                         ub = inf
17
18
   The current iteration cnt = 0
19
        The SP model was solved Optimal 2 and SPObj = 580.0
20
        Master protblem status = 2, is Optimal
21
        Deterministic Sub problem Status= 2, is Optimal
        1b = 1059.0
22
                                ub = 1059.0
23
        MPObj = 1059.0
                            MP delete Hua Obj = 606.0
                                                           Hua = 453.0
                                                                          SPObj = 580.0
                                                                                            Deter SP Obj = 453.0
24
   ub - 1b = 0.0
25
26
27 Iteration cycle stopped by termination criterion 1: Because ub - lb \leq eps, the iteration stop, and cnt = 0
   i: 0.0 1_i: 5.0 p_i: 29.0 aI_i: 48.0 sol_a_i: 48.0 sol_g_i: 0.0 d_i: 67.0 sol_taoi: 48.0 sol_deltai - sol_taoi: 19.0 sol_taoP: 48.0 sol_deltaP - sol_taoP: 6.0 cI_i: 4999375.0 sol_c_i: 4999375.0 sol_gp_i: 0.0 total work: 5141058.0 wasted work: 0.
28
   5374027097146151
29
     i: 1.0 1 i: 4.0 p i: 14.0 aI i: 17.0
                                             sol a i: 17.0 sol g i: 0.0 d i: 29.0 sol taoi: 17.0 sol deltai: 29.0 sol deltai - sol taoi: 12.0 sol taoP
     17.0 sol_deltaP: 19.0 sol_deltaP - sol_taoP: 2.0 cl_i: 2974108.0
                                                                     sol_c_i: 2974108.0 sol_gp_i: 0.0 total work: 3163728.0 wasted work: 0.
    7192274430671663
      i: 2.0 1 i: 7.0 p i: 22.0 aI i: 43.0
                                             sol a i: 43.0 sol g i: 0.0 d i: 62.0 sol taoi: 43.0 sol deltai: 62.0 sol deltai - sol taoi: 19.0 sol taoP
    43.0 sol_deltaP: 46.0 sol_deltaP - sol_taoP: 3.0 cl_i: 4775116.0 sol_c_i: 4775116.0 sol_gp_i: 0.0 total work: 5141058.0 wasted work: 1.
   3880156574775075
31
     i: 3.0 1_i: 5.0 p_i: 26.0 aI_i: 5.0
                                             sol_a i: 5.0 sol_g i: 0.0 d_i: 31.0 sol_taoi: 5.0 sol_deltai: 31.0 sol_deltai - sol_taoi: 26.0 sol_taoP: 5
        sol deltaP: 13.0 sol deltaP - sol taoP: 8.0 cI i: 6615975.0 sol c i: 6615975.0 sol gp i: 0.0 total work: 6986566.0 wasted work: 1.
   4056492846414104
32
      i: 4.0 1_i: 7.0 p_i: 7.0 aI_i: 29.0
                                            sol a i: 29.0 sol g i: 0.0 d i: 47.0 sol taoi: 29.0 sol deltai: 47.0 sol deltai - sol taoi: 18.0 sol taoP:
   29.0 sol deltaP: 34.0 sol deltaP - sol taoP: 5.0 cl i: 4538343.0 sol c i: 4538343.0 sol gp i: 0.0 total work: 4613770.0 wasted work: 0.
   28609412692873726
                                             sol_a_i: 63.0 sol_g_i: 0.4 d_i: 83.0 sol_taoi: 63.0 sol_deltai: 84.0 sol_deltai - sol_taoi: 21.0 sol_taoP
33
      i: 5.0 l_i: 7.0 p_i: 18.0 al_i: 61.0
     63.0 sol_deltaP: 66.0 sol_deltaP - sol_taoP: 3.0 cl_i: 5372244.0 sol_c_i: 5372244.0 sol_gp_i: 0.0 total work: 5536524.0 wasted work: 0.
   6231129856928282
      i: 6.0 1_i: 5.0 p_i: 18.0 aI_i: 5.0
                                             sol_a_i: 8.0 sol_g_i: 0.37500000000000000 d_i: 31.0 sol_taoi: 8.0 sol_deltai: 30.0 sol_deltai - sol_taoi:
34
   22.0
          sol taoP: 8.0 sol deltaP: 15.0 sol deltaP - sol taoP: 7.0 cl i: 5722539.0 sol c i: 6777115.0 sol gp i: 1.0 total work: 6854744.0 wasted
   work: 0.29444629879686246
      i: 7.0 l_i: 6.0 p_i: 8.0 al_i: 61.0 sol_a_i: 67.0 sol_g_i: 0.6 d_i: 83.0 sol_taoi: 67.0 sol_deltai: 93.0 sol_deltai - sol_taoi: 26.0 sol_taop: 73.0 sol_deltap - sol_taop: 6.0 cl_i: 6601917.0 sol_c_i: 7445577.8 sol_gp_i: 0.8 total work: 7513854.0 wasted work: 0.
35
    2589711884207499
                                             sol a i: 72.0 sol g i: 1.0 d i: 83.0 sol taoi: 72.0 sol deltai: 84.0 sol deltai - sol taoi: 12.0 sol taoP
      i: 8.0 1_i: 7.0 p_i: 25.0 aI_i: 65.0
     72.0 sol deltaP: 75.0 sol deltaP - sol taoP: 3.0 cl i: 2902377.0 sol c i: 4009681.8 sol gp i: 0.6 total work: 4086482.0 wasted work: 0.
   2913026657158903
      i: 9.0 l_i: 4.0 p_i: 14.0 al_i: 47.0
                                             sol_a_i: 51.37499999999936 sol_g_i: 0.624999999999902 d_i: 79.0 sol_taoi: 52.0 sol_deltai: 79.0
   sol deltai - sol taoi: 27.0 sol taoP: 52.0 sol deltaP: 58.0 sol deltaP - sol taoP: 6.0 cl i: 6926380.0 sol c i: 7242752.8 sol gp i: 0.6 total work
     7250210.0 wasted work: 0.02828511174159164
   Time: 152.000000
39
40
41
42
```