```
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=24702
 2
3
   import sys; print('Python %s on %s' % (sys.version, sys.platform))
   sys.path.extend(['E:\\1\ ]==-\\3\ python\_code\) Code for this
   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
   python code/9 Code for this paper')
10 Backend TkAgg is interactive backend. Turning interactive mode on.
11
   Waiting 5s.....
   Optimize the ./R 11 5.xlsx instance by ECCG
13
14
15
       Master protblem status = 2, is Optimal and MP obj = 440.0
16
   The initial lb = -inf
                      ub = inf
17
18
   The current iteration cnt = 0
19
       The SP model was solved Optimal 2 and SPObj = 440.0
20
       Deterministic Sub problem Status= 2, is Optimal
21
       Master protblem status = 2, is Optimal
       1b = 803.0
22
                          ub = 803.0
23
       MPObj = 803.0
                     MP delete Hua Obj = 463.0
                                                   Hua = 340.0
                                                                 SPObj = 440.0
                                                                                 Deter SP Obj = 340.0
24
   ub - 1b = 0.0
25
26
27
  Iteration cycle stopped by termination criterion 1: Because ub - lb \le eps, the iteration stop, and cnt = 0
     i: 0.0 1_i: 5.0 p_i: 0.0 al_i: 5.0 sol_a_i: 5.0 sol_g_i: 0.0 d_i: 15.0 sol_taoi: 5.0 sol_deltai: 12.0 sol_deltai: 12.0 sol_deltai: 7.0 sol_taoP: 5.0
28
     sol_deltaP: 7.0 sol_deltaP - sol_taoP: 2.0 cl_i: 1685347.0 sol_e i: 1685347.0 sol_gp_i: 0.0 total work: 1845508.0 wasted work: 0.
   6074896451275205
29
     i: 1.0 1 i: 5.0 p i: 5.0 aI i: 2.0
                                       sol_a_i: 2.0 sol_g_i: 0.0 d_i: 15.0 sol_taoi: 2.0 sol_deltai: 15.0 sol_deltai - sol_taoi: 13.0 sol_taoP: 2.0
     sol_deltaP: 6.0 sol_deltaP - sol_taoP: 4.0 cl_i: 3325804.0 sol_e_i: 3325804.0 sol_gp_i: 0.0 total work: 3427372.0 wasted work: 0.
   3852467721624615
     i: 2.0 1 i: 6.0 p i: 15.0 aI i: 14.0
                                         sol a i: 14.0 sol g i: 0.0 d i: 36.0 sol taoi: 14.0 sol deltai: 37.0 sol deltai - sol taoi: 23.0 sol taoP
    14.0 sol_deltaP: 18.0 sol_deltaP - sol_taoP: 4.0 cl_i: 6030336.0 sol_c_i: 6030336.0 sol_gp_i: 0.0 total work: 6063812.0 wasted work: 0.
   12697425315956365
    i: 3.0 1_i: 5.0 p_i: 10.0 aI_i: 14.0
                                         sol_a_i: 14.0 sol_g_i: 0.0 d_i: 25.0 sol_taoi: 14.0 sol_deltai: 21.0 sol_deltai - sol_taoi: 7.0 sol_taoP
    14.0 sol deltaP: 16.0 sol deltaP - sol taoP: 2.0 cI i: 1637737.0 sol c i: 1637737.0 sol gp i: 0.0 total work: 1845508.0 wasted work: 0.
   7880740695786743
     i: 4.0 1_i: 5.0 p_i: 21.0 aI_i: 20.0
                                         sol_a_i: 20.0 sol_g_i: 0.0 d_i: 44.0 sol_taoi: 20.0 sol_deltai: 41.0 sol_deltai - sol_taoi: 21.0 sol_taoP
    20.0 sol_deltaP: 27.0 sol_deltaP - sol_taoP: 7.0 cl_i: 5351141.0 sol_c_i: 5351141.0 sol_gp_i: 0.0 total work: 5536524.0 wasted work: 0.
   7031565292591525
                                         sol_a_i: 24.0 sol_g_i: 0.0 d_i: 30.0 sol_taoi: 24.0 sol_deltai: 29.0 sol_deltai - sol_taoi: 5.0 sol_taoP
33
     i: 5.0 1_i: 7.0 p_i: 27.0 aI_i: 24.0
    24.0 sol_deltaP: 25.0 sol_deltaP - sol_taoP: 1.0 cI_i: 1201427.0 sol_c_i: 1201427.0 sol_gp_i: 0.0 total work: 1318220.0 wasted work: 0.
   4429950994522917
     i: 6.0 1_i: 6.0 p_i: -0.0 aI_i: 29.0
                                         sol_a_i: 30.0 sol_g_i: 0.2 d_i: 48.0 sol_taoi: 30.0 sol_deltai: 48.0 sol_deltai - sol_taoi: 18.0 sol_taoP
    30.0 sol deltaP: 36.0 sol deltaP - sol taoP: 6.0 cl i: 4500077.0 sol c i: 4745592.0 sol gp i: 0.15520613655788362 total work: 4745592.0
   wasted work: 0.0
                                         35
     i: 7.0 1 i: 5.0 p i: 14.0 aI i: 34.0
   sol_taoi: 29.0 sol_taoP: 41.0 sol_deltaP: 47.0 sol_deltaP - sol_taoP: 6.0 cI_i: 7630244.0 sol_c_i: 8310228.133333333 sol_gp_i: 0.
   644793863442116 total work: 9359362.0 wasted work: 3.9793580231928933
                                       sol a i: 36.0 sol g i: 0.2 d i: 43.0 sol taoi: 36.0 sol deltai: 43.0 sol deltai - sol taoi: 7.0 sol taoP:
     i: 8.0 1 i: 5.0 p i: 9.0 aI i: 34.0
   36.0 sol_deltaP: 38.0 sol_deltaP - sol_taoP: 2.0 cl_i: 1705681.0 sol_c_i: 2760257.0 sol_gp_i: 1.0 total work: 3163728.0 wasted work: 1.
   5303629136259502
     i: 9.0 1_i: 5.0 p_i: 19.0 aI_i: 47.0
                                         sol_a_i: 53.0 sol_g_i: 0.8571428571428571 d_i: 66.0 sol_taoi: 53.0 sol_deltai: 73.0 sol_deltai
   sol taoi: 20.0 sol taoP: 53.0 sol deltaP: 59.0 sol_deltaP - sol_taoP: 6.0 cl_i: 5229391.0 sol_c_i: 5800168.0 sol_gp_i: 0.30927907112838304
   total work: 5800168.0 wasted work: 0.0
                                           sol_a_i: 56.07499999999825 sol_g_i: 0.8678571428571162 d_i: 68.0 sol_taoi: 57.0 sol_deltai: 74.0
            1_i: 6.0 p_i: 24.0 aI_i: 50.0
     sol deltai - sol taoi: 17.0 sol taoP: 57.0 sol deltaP: 61.0 sol deltaP - sol taoP: 4.0 cl i: 4322611.0 sol c i: 4792277.457142857 sol gp i: 0.
   890720928871616 total work: 5009236.0 wasted work: 0.8229223606725095
39
   Time: 64.000000
40
41
42
43
```