```
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=43107
 3
     import sys; print('Python %s on %s' % (sys.version, sys.platform))
     sys.path.extend(['E:\\1 ] _ _ \\3 | 0 _ _ | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | \\1 | 0 | 0 | \\1 | 0 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\\  | 0 | \\1 | 0 | \\\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | 
      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 15 3.xlsx instance by CCG
13
14
15
             Master protblem status = 2, is Optimal and MP obj = 547.0
16
     The initial lb = -inf
                                       ub = inf
17
18
     The current iteration cnt = 0
19
             The SP model was solved Optimal 2 and SPObj = 547.0
20
             Master protblem status = 2, is Optimal
21
             Deterministic Sub problem Status= 2, is Optimal
22
            1b = 1041.0
                                                  ub = 1041.0
23
             MPObj = 1041.0
                                             MP delete Hua Obj = 577.0
                                                                                              Hua = 464.0
                                                                                                                      SPObj = 547.0
                                                                                                                                                  Deter SP Obj = 464.0
24
25
     ub - 1b = 0.0
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: 9.0 al_i: 3.0 sol_a_i: 3.0 sol_g_i: 0.0 d_i: 39.0 sol_taoi: 3.0 sol_deltai: 7.0 sol_deltai - sol_taoi: 4.0 sol_taoi: 3.0
28
          sol_deltaP: 4.0 sol_deltaP - sol_taoP: 1.0 cl_i: 1002244.0
                                                                                                   sol_c_i: 1002244.0 sol_gp_i: 0.0 total work: 1581864.0 wasted work: 2.
      198494940146561
29
          i: 1.0 1_i: 5.0 p_i: 8.0 aI_i: 8.0
                                                                     sol a i: 8.0 sol g i: 0.0 d i: 54.0 sol taoi: 8.0 sol deltai: 23.0 sol deltai - sol taoi: 15.0 sol taoP: 8.0
                                     sol_deltaP - sol_taoP: 3.0 cl_i: 3867170.0 sol_c_i: 3867170.0 sol_gp_i: 0.0 total work: 3954660.0 wasted work: 0.
          sol deltaP: 11.0
      3318490085114776
                                                                        sol a i: 13.0 sol g i: 0.0 d i: 55.0 sol taoi: 13.0 sol deltai: 24.0 sol deltai - sol taoi: 11.0 sol taoP
         i: 2.0 1 i: 5.0 p i: 24.0 aI i: 13.0
        13.0 sol_deltaP: 15.0 sol_deltaP - sol_taoP: 2.0 cl_i: 2793468.0 sol_c_i: 2793468.0 sol_gp_i: 0.0 total work: 3031906.0 wasted work: 0.
      904393803765684
         i: 3.0 1_i: 5.0 p_i: 18.0 aI_i: 17.0
                                                                        sol_a_i: 17.0 sol_g_i: 0.0 d_i: 62.0 sol_taoi: 17.0 sol_deltai: 31.0 sol_deltai - sol_taoi: 14.0 sol_taoP
31
        17.0 sol deltaP: 20.0 sol deltaP - sol taoP: 3.0 cI i: 3514829.0 sol c i: 3514829.0 sol gp i: 0.0 total work: 3691016.0 wasted work: 0.
      6682761602767369
          i: 4.0 1_i: 5.0 p_i: 13.0 aI_i: 19.0
                                                                         sol_a_i: 19.0 sol_g_i: 0.0 d_i: 55.0 sol_taoi: 19.0 sol_deltai: 24.0 sol_deltai - sol_taoi: 5.0 sol_taoP
        19.0 sol_deltaP: 20.0 sol_deltaP - sol_taoP: 1.0 cl_i: 1292682.0 sol_c_i: 1292682.0 sol_gp_i: 0.0 total work: 1318220.0 wasted work: 0.
      09686547010362459
         i: 5.0 1_i: 5.0 p_i: 0.0 aI_i: 22.0
                                                                  sol_a_i: 22.0 sol_g_i: 0.0 d_i: 57.0 sol_taoi: 22.0 sol_deltai: 26.0 sol_deltai - sol_taoi: 4.0 sol_taoP:
33
                sol_deltaP: 23.0 sol_deltaP - sol_taoP: 1.0 cI_i: 1037494.0
                                                                                                               sol_c_i: 1037494.0 sol_gp_i: 0.0 total work: 1054576.0 wasted work: 0.
      0647919163720775
         i: 6.0 l_i: 5.0 p_i: 9.0 al_i: 26.0 sol_a_i: 26.0 sol_g_i: 0.0 d_i: 62.0 sol_taoi: 26.0 sol_deltai: 33.0 sol_deltai - sol_taoi: 7.0 sol_6.0 sol_deltaP - sol_taoP: 2.0 cl_i: 1812852.0 sol_c_i: 1812852.0 sol_g_i: 0.0 total work: 2240974.0 wasted work: 1.
                                                                    sol_a_i: 26.0 sol_g_i: 0.0 d_i: 62.0 sol_taoi: 26.0 sol_deltai: 33.0 sol_deltai - sol taoi: 7.0 sol taoP:
34
      26.0
        sol a i: 29.0 sol g i: 0.0 d i: 82.0 sol taoi: 29.0 sol deltai: 41.0 sol deltai - sol taoi: 12.0 sol taoP
35
      6839070868292091
        i: 8.0 l_i: 5.0 p_i: 14.0 al_i: 31.0 sol_a_i: 33.0 sol_g_i: 0.4 d_i: 73.0 sol_taoi: 33.0 sol_deltai: 44.0 sol_deltai - sol_taoi: 11.0 sol_taoP 33.0 sol_deltaP - sol_taoP: 2.0 cl_i: 2870420.0 sol_c_i: 3001894.099999999 sol_gp_i: 0.08311340292208991 total work:
      3163728.0 wasted work: 0.6138349440914685
         8.0 sol taoP: 37.0 sol deltaP: 40.0 sol_deltaP - sol_taoP: 3.0 cl_i: 1873374.0 sol_c_i: 2900084.00000034 sol_gp_i: 0.9735761102092537
      total work: 2900084.0 wasted work: -1.2893627002118374e-13
                                                                           sol_a_i: 38.0 sol_g_i: 0.2 d_i: 82.0 sol_taoi: 38.0 sol_deltai: 54.0 sol_deltai - sol_taoi: 16.0
          sol taoP: 38.0 sol deltaP: 41.0 sol deltaP - sol taoP: 3.0 cl i: 4119901.0 sol c i: 4481948.0 sol gp i: 0.34331048686865623 total work:
      4481948.0 wasted work: 0.0
                                                                         sol\_a\_i: \ 41.0 \ sol\_g\_i: \ 0.42857142857142855 \ d\_i: \ 74.0 \ sol\_taoi: \ 41.0 \ sol\_deltai: \ 52.0 \ sol\_del
39
         sol_taoi: 11.0 sol_taoP: 41.0 sol_deltaP: 44.0 sol_deltaP - sol_taoP: 3.0 cl_i: 2878192.0 sol_c_i: 4723700.0 sol_gp_i: 1.0 total work: 4745592.0
          wasted work: 0.08303621550272337
40
          sol_a_i: 49.0 sol_g_i: 1.0 d_i: 80.0 sol_taoi: 49.0 sol_deltai: 62.0 sol_deltai - sol_taoi: 13.0
      sol_taoP: 49.0 sol_deltaP: 52.0
                                                          sol deltaP - sol taoP: 3.0 cl i: 3205861.0 sol c i: 3325582.05 sol gp i: 0.22705058715540638 total work:
      3822838.0 wasted work: 1.8860886270880437
         sol_taoi: 7.0 sol_taoP: 50.0 sol_deltaP: 53.0 sol_deltaP: 53.0 sol_deltaP: 50.0 sol_taoP: 3.0 cl_i: 1842456.0 sol_c_i: 3031906.0 sol_gp_i: 0.9023152432826084
      total work: 3163728.0 wasted work: 0.5
                                                                            sol a i: 44.117857142857034 sol g i: 0.6797619047618921 d i: 79.0 sol taoi: 45.0 sol deltai: 54.0
         i: 14.0 1 i: 5.0 p i: 24.0 aI i: 38.0
          sol deltai - sol taoi: 9.0 sol taoP: 45.0 sol deltaP - sol taoP: 2.0 cl i: 2171089.0 sol c i: 3163728.0 sol gp i: 0.
      4706341695619851 total work: 3163728.0 wasted work: 0.0
43 Time: 289.000000
44
45
46
47
```