```
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=28045
   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_ECCG_deterministic.py', wdir='E:/1 0000/3 00000/1 0000000/1 0000000/1 000000/1 LW_00001/4 0000/3 python_code/
10 Backend TkAgg is interactive backend. Turning interactive mode on.
11
           Waiting 5s.....
           Optimize the ./R 10 3.xlsx instance by ECCG for deterministic model
13
14
15
           Set parameter MIPGap to value 0.01
                         Master protblem status = 2, is Optimal and MP obj = 583.0
16
           The initial lb = -inf
                                                                             ub = inf
17
18
19
           The current iteration cnt = 0
20
                         The SP model was solved Optimal 2 and SPObj = 580.0
                         Deterministic Sub problem Status= 2, is Optimal
21
22
                         Master protblem status = 2, is Optimal
                                                                                                  ub = 1024.0
                                                                                                                                                                                                                                                                                       MP SP Obj = 441.0
                          MPObj = 1024.0
                                                                                      MP delete Hua Obj = 583.0
24
                                                                                                                                                                                    Hua = 441.0
                                                                                                                                                                                                                                   SPObi = 580.0
                                                                                                                                                                                                                                                                                                                                                                  Deter SP Obj = 441.0
25
26
         ub - 1b = 0.0
27
28 Iteration cycle stopped by termination criterion 1: Because ub - lb \le eps, the iteration stop, and cnt = 0
29
                   i: 0.0 \ l\_i: 5.0 \ p\_i: 18.0 \ aI\_i: 48.0
                                                                                                                                           sol_a_i: 48.0 sol_g_i: 0.0 d_i: 67.0 sol_taoi: 48.0 sol_deltai: 67.0 sol_deltai - sol_taoi: 19.0 sol_taoP
                48.0 sol_deltaP: 54.0 sol_deltaP - sol_taoP: 6.0 cl_i: 4999375.0 sol_c_i: 4999375.0 sol_gp_i: 0.0 total work: 5536524.0 wasted work: 2.
           0374027097146152
                  30
                              sol deltaP: 21.0 sol deltaP - sol taoP: 4.0 cI i: 2974108.0
                                                                                                                                                                                                                     sol_c_i: 2974108.0 sol_gp_i: 0.0 total work: 3427372.0 wasted work: 1.
           7192274430671663
                i: 2.0 l_i: 7.0 p i: 11.0 al_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 so
                                                                                                                                          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
            8880156574775075
                                                                                                                                    sol\_a\_i: 5.0 \quad sol\_g\_i: 0.0 \quad d\_i: 31.0 \quad sol\_taoi: 5.0 \quad sol\_deltai: 31.0 \quad sol\_deltai - sol\_taoi: 26.0 \quad sol \quad taoP: 5.0 \quad sol\_deltai - sol\_taoi: 26.0 \quad so
                   i: 3.0 1_i: 5.0 p_i: 0.0 aI_i: 5.0 sol deltaP: 18.0 sol deltaP - sol ta
                                                                      sol_deltaP - sol_taoP: 13.0 cl_i: 6615975.0 sol_c_i: 6615975.0 sol_gp_i: 0.0 total work: 6854744.0 wasted work: 0.
           9056492846414104
                i: 4.0\ 1_{\text{i}}: 7.0\ p_{\text{i}}: 18.0\ aI_{\text{i}}: 29.0\ sol_a_{\text{i}}: 29.0\ sol_g_{\text{i}}: 0.0\ d_{\text{i}}: 47.0\ sol_{\text{taoi}}: 29.0\ sol_{\text{deltai}}: 47.0\ sol_{\text{deltai}}: 47.0
                                                                                                                                          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
           28609412692873726
                   i: 5.0 1_i: 7.0 p_i: 4.0 aI_i: 61.0
                                                                                                                               sol_a_i: 61.0 sol_g_i: 0.0 d_i: 83.0 sol_taoi: 61.0 sol_deltai: 82.0 sol_deltai - sol_taoi: 21.0 sol_taoP:
                              sol_deltaP: 67.0 sol_deltaP - sol_taoP: 6.0 cl_i: 5372244.0 sol_c_i: 5372244.0 sol_gp_i: 0.0 total work: 5536524.0 wasted work: 0.
           6231129856928282
                                                                                                                                     sol\_a\_i: 5.0 \quad sol\_g\_i: 0.0 \quad d\_i: 31.0 \quad sol\_taoi: 5.0 \quad sol\_deltai: 27.0 \quad sol\_deltai - sol\_taoi: 22.0 \quad sol\_taoP: 5.0 \quad sol\_taoi: 22.0 \quad sol
                   i: 6.0 1_i: 5.0 p_i: 9.0 aI_i: 5.0
                                                                     sol_deltaP - sol_taoP: 5.0 cl_i: 5722539.0 sol_c_i: 5722539.0 sol_gp_i: 0.0 total work: 5800168.0 wasted work: 0.
           29444629879686246
                                                                                                                                            sol_a_i: 61.0 sol_g_i: 0.0 d_i: 83.0 sol_taoi: 61.0 sol_deltai: 87.0 sol_deltai - sol_taoi: 26.0 sol_taoP
                   i: 7.0 1_i: 6.0 p_i: 23.0 aI_i: 61.0
            : 61.0 sol_deltaP: 67.0 sol_deltaP - sol_taoP: 6.0 cl_i: 6601917.0 sol_c_i: 6601917.0 sol_gp_i: 0.0 total work: 6722922.0 wasted work: 0.
           4589711884207492
                                                                                                                                           sol a i: 65.0 sol g i: 0.0 d i: 83.0 sol taoi: 65.0 sol deltai: 77.0 sol deltai - sol taoi: 12.0 sol taoP
37
                   i: 8.0 1 i: 7.0 p i: 11.0 aI i: 65.0
                65.0 sol_deltaP: 68.0 sol_deltaP - sol_taoP: 3.0 cI_i: 2902377.0
                                                                                                                                                                                                                    sol_c_i: 2902377.0 sol_gp_i: 0.0 total work: 3163728.0 wasted work: 0.
           9913026657158897
                   i: 9.0 1_i: 4.0 p_i: 0.0 aI_i: 47.0
                                                                                                                                sol a i: 47.0 sol g i: 0.0 d i: 79.0 sol taoi: 47.0 sol deltai: 74.0 sol deltai - sol taoi: 27.0 sol taoP:
                                sol_deltaP: 56.0 sol_deltaP - sol_taoP: 9.0 cI_i: 6926380.0 sol_c_i: 6926380.0 sol_gp_i: 0.0 total work: 7118388.0 wasted work: 0.
            7282851117415909
         Time: 101.000000
40
41
42
```