```
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=15148
    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 9 7.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 = 392.0
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 = 392.0
                                Deterministic Sub problem Status= 2, is Optimal
21
22
                                Master protblem status = 2, is Optimal
                                                                                                                     ub = 671.0
                                 MPObj = 671.0 MP_delete_Hua_Obj = 392.0
24
                                                                                                                                                                                                                              Hua = 279.0
                                                                                                                                                                                                                                                                                          SPObi = 392.0
                                                                                                                                                                                                                                                                                                                                                       MP SP Obj = 279.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Deter SP Obj = 279.0
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 1_i: 5.0 p_i: 26.0 aI_i: 36.0
                                                                                                                                                                                   sol_a_i: 36.0 sol_g_i: 0.0 d_i: 53.0 sol_taoi: 36.0 sol_deltai: 53.0 sol_deltai - sol_taoi: 17.0 sol_taoP
                     36.0 sol_deltaP: 40.0 sol_deltaP - sol_taoP: 4.0 cl_i: 4354230.0 sol_c_i: 4354230.0 sol_gp_i: 0.0 total work: 4877414.0 wasted work: 1.
               9844335543384262
                                                                                                                                                                                   sol\_a\_i: \ 2.0 \quad sol\_g\_i: \ 0.0 \quad d\_i: \ 14.0 \quad sol\_taoi: \ 2.0 \quad sol\_deltai: \ 14.0 \quad sol\_deltai - sol\_taoi: \ 12.0 \quad sol\_taoP: \ 2.0 \quad sol\_deltai - sol\_taoi: \ 12.0 \quad sol\_taoP: \ 2.0 \quad sol\_deltai - sol\_taoi: \ 12.0 \quad sol\_taoP: \ 2.0 \quad sol\_deltai - sol\_taoi: \ 12.0 \quad sol\_taoP: \ 2.0 \quad sol\_deltai - sol\_taoi: \ 12.0 \quad sol\_taoP: \ 2.0 \quad sol\_deltai - sol\_taoi: \ 12.0 \quad sol\_taoP: \ 2.0 \quad sol\_deltai - sol\_taoi: \ 12.0 \quad sol\_taoP: \ 2.0 \quad sol\_deltai - sol\_taoi: \ 12.0 \quad sol\_taoP: \ 2.0 \quad sol\_deltai - sol\_taoi: \ 12.0 \quad sol\_taoP: \ 2.0 \quad sol\_taoP: \ 2
30
                       i: 1.0 1_i: 6.0 p_i: 28.0 aI_i: 2.0
                                 sol deltaP: 5.0 sol deltaP - sol taoP: 3.0 cl i: 3002638.0
                                                                                                                                                                                                                                                            sol c i: 3002638.0 sol gp i: 0.0 total work: 3954660.0 wasted work: 3.
               6110133361654353
                    i: 2.0 l_i: 5.0 p_i: 21.0 al_i: 30.0 sol_a_i: 30.0 sol_g_i: 0.0 d_i: 52.0 sol_taoi: 30.0 sol_deltai: 52.0 so
                                                                                                                                                                                    sol_a_i: 30.0 sol_g_i: 0.0 d_i: 52.0 sol_taoi: 30.0 sol_deltai: 52.0 sol_deltai - sol_taoi: 22.0 sol_taoP
               6375073963374854
                    i: 3.0 l_i: 5.0 p_i: 16.0 al_i: 43.0 sol_a_i: 43.0 sol_g_i: 0.0 d_i: 67.0 sol_taoi: 43.0 sol_deltai: 67.0 sol_deltai - sol_taoi: 24.0 sol_deltaP - sol_taoi: 43.0 sol_deltaP - sol_taoi: 6127527.0 sol_c_i: 6127527.0 sol_gp_i: 0.0 total work: 6327456.0 wasted work: 0.
                                                                                                                                                                                sol_a_i: 43.0 sol_g_i: 0.0 d_i: 67.0 sol_taoi: 43.0 sol_deltai: 67.0 sol_deltai - sol_taoi: 24.0 sol_taoP
               7583294139066317
                    i: 4.0\ 1_{\text{i}}: 6.0\ p_{\text{i}}: 10.0\ al_{\text{i}}: 50.0\ sol_{\text{a}}: 50.0\ sol_{\text{g}}: 0.0\ d_{\text{i}}: 64.0\ sol_{\text{taoi}}: 50.0\ sol_{\text{deltai}}: 64.0\ so
                                                                                                                                                                                  sol a i: 50.0 sol g i: 0.0 d i: 64.0 sol taoi: 50.0 sol deltai: 64.0 sol deltai - sol taoi: 14.0 sol taoP
               1161187055271502
                         i: 5.0 1_i: 5.0 p_i: 5.0 aI_i: 14.0
                                                                                                                                                                          sol_a_i: 14.0 sol_g_i: 0.0 d_i: 42.0 sol_taoi: 14.0 sol_deltai: 39.0 sol_deltai - sol_taoi: 25.0 sol_taoP:
                                        sol_deltaP: 21.0 sol_deltaP - sol_taoP: 7.0 cl_i: 6378313.0 sol_c_i: 6378313.0 sol_gp_i: 0.0 total work: 7382032.0 wasted work: 3.
               8070997253872645
                                                                                                                                                                           sol\_a\_i: 1.0 \quad sol\_g\_i: 0.0 \quad d\_i: 13.0 \quad sol\_taoi: 1.0 \quad sol\_deltai: 13.0 \quad sol\_deltai - sol\_taoi: 12.0 \quad sol\_taoP: 1.0 \quad sol\_deltai - sol\_taoi: 12.0 \quad sol\_taoP: 1.0 \quad sol
                         i: 6.0 1 i: 6.0 p i: 5.0 aI i: 1.0
                         sol_deltaP: 5.0 sol_deltaP - sol_taoP: 4.0 cl_i: 3105385.0 sol_c_i: 3105385.0 sol_gp_i: 0.0 total work: 3163728.0 wasted work: 0.
               22129462456949522
                                                                                                                                                                           sol\_a\_i: 5.0 \quad sol\_g\_i: 0.0 \quad d\_i: 22.0 \quad sol\_taoi: 5.0 \quad sol\_deltai: 16.0 \quad sol\_deltai - sol\_taoi: 11.0 \quad sol\_taoP: 5.0 \quad sol\_taoi: 11.0 \quad sol\_taoi
36
                         i: 7.0 1_i: 5.0 p_i: 0.0 aI_i: 5.0
                          sol deltaP: 8.0 sol deltaP - sol taoP: 3.0 cI i: 2734109.0
                                                                                                                                                                                                                                                    sol_c_i: 2734109.0 sol_gp_i: 0.0 total work: 2900084.0 wasted work: 0.
               6295421098147502
                        i: 8.0 1 i: 4.0 p i: 0.0 aI i: 57.0
                                                                                                                                                                           sol a i: 57.0 sol g i: 0.0 d i: 76.0 sol taoi: 57.0 sol deltai: 74.0 sol deltai - sol taoi: 17.0 sol taoP:
37
                                         sol_deltaP: 63.0 sol_deltaP - sol_taoP: 6.0 cl_i: 4402918.0 sol_c_i: 4402918.0 sol_gp_i: 0.0 total work: 4745592.0 wasted work: 1.
               2997602828056014
             Time: 55.000000
39
40
41
42
```