```
1  "E:\1 □□□□\3 □□□□□\1 □□□□□□\1 □□□□□□□□\1_□□□□□□_□□□□\1_LW_□□□□\4 □□□□\3 python_code\1 exzample\2 □□□□□□□\9 Code for
   this paper\Scripts\python.exe" "D:\Python\Pycharm\setroute\PyCharm Community Edition 2021.2.3\plugins\python-ce\helpers\pydev\pydevconsole.py" --mode=
   client --port=53694
2
3  import sys; print('Python %s on %s' % (sys.version, sys.platform))
4  sys.path.extend(['E:\\1 □□□□\\3 □□□□□\\1 □□□□□□\\1 □□□□□□□□\\1_□□□□□□_□□□□\\1_LW_□□□□\\4 □□□□\\3 python_code\\9 Code for this
   paper', 'E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW_□□□□/4 □□□□/3 python_code/9 Code for this paper'])
5
6  PyDev console: starting.
7
8  Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32
9  >>> runfile('E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW_□□□□/4 □□□□/3 python_code/9 Code for this paper/
   main_ECCG_deterministic.py', wdir='E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW_□□□□/4 □□□□/3 python_code/9
   Code for this paper')
10 Backend TkAgg is interactive backend. Turning interactive mode on.
11 Waiting 5s......
12
13 Optimize the ./R_11_1.xlsx instance by ECCG for deterministic model
14
15 Set parameter MIPGap to value 0.01
16     Master protblem status = 2 , is Optimal and MP obj = 505.0
17 The initial lb = -inf     ub = inf
18
19 The current iteration cnt = 0
20     The SP model was solved Optimal 2 and SPObj = 505.0
21     Deterministic Sub problem Status= 2 , is Optimal
22     Master protblem status = 2 , is Optimal
23     lb = 887.0            ub = 887.0
24     MPObj = 887.0    MP_delete_Hua_Obj = 505.0      Hua = 382.0      SPObj = 505.0      Deter_SP_Obj = 382.0
25
26 ub - lb = 0.0
27
28 Iteration cycle stopped by termination criterion 1: Because ub - lb <= eps, the iteration stop, and cnt = 0
29     i: 0.0  l_i: 5.0   p_i: 0.0  al_i: 72.0     sol_a_i: 72.0  sol_g_i: 0.0   d_i: 81.0   sol_taoi: 72.0    sol_deltai: 77.0  sol_deltai - sol_taoi: 5.0   sol_taoP:
   72.0    sol_deltaP: 74.0   sol_deltaP - sol_taoP: 2.0  cl_i: 1057366.0    sol_c_i: 1057366.0  sol_gp_i: 0.0 total work: 1581864.0   wasted work: 1.
   989417547905509
30     i: 1.0  l_i: 6.0   p_i: 13.0   al_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: 5.0  sol_deltaP - sol_taoP: 3.0  cl_i: 3325804.0    sol_c_i: 3325804.0  sol_gp_i: 0.0 total work: 3822838.0   wasted work: 1.
   8852467721624615
31     i: 2.0  l_i: 6.0   p_i: 7.0  al_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: 20.0   sol_deltaP - sol_taoP: 6.0  cl_i: 6030336.0    sol_c_i: 6030336.0  sol_gp_i: 0.0 total work: 6459278.0   wasted work: 1.
   6269742531595637
32     i: 3.0  l_i: 7.0   p_i: 0.0  al_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  cl_i: 1637737.0    sol_c_i: 1637737.0  sol_gp_i: 0.0 total work: 1845508.0   wasted work: 0.
   7880740695786743
33     i: 4.0  l_i: 5.0   p_i: 25.0  al_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: 25.0   sol_deltaP - sol_taoP: 5.0  cl_i: 5351141.0    sol_c_i: 5351141.0  sol_gp_i: 0.0 total work: 6591100.0   wasted work: 4.
   703156529259153
34     i: 5.0  l_i: 7.0   p_i: 0.0  al_i: 24.0      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:
   24.0    sol_deltaP: 27.0   sol_deltaP - sol_taoP: 3.0  cl_i: 1201427.0    sol_c_i: 1201427.0  sol_gp_i: 0.0 total work: 1581864.0   wasted work: 1.
   4429950994522918
35     i: 6.0  l_i: 6.0   p_i: 19.0   al_i: 29.0      sol_a_i: 29.0  sol_g_i: 0.0   d_i: 48.0   sol_taoi: 29.0    sol_deltai: 47.0  sol_deltai - sol_taoi: 18.0  sol_taoP
   : 29.0  sol_deltaP: 33.0   sol_deltaP - sol_taoP: 4.0  cl_i: 4500077.0    sol_c_i: 4500077.0  sol_gp_i: 0.0 total work: 4613770.0   wasted work: 0.
   4312368193473017
36     i: 7.0  l_i: 6.0   p_i: 13.0   al_i: 34.0      sol_a_i: 34.0  sol_g_i: 0.0   d_i: 63.0   sol_taoi: 34.0    sol_deltai: 63.0  sol_deltai - sol_taoi: 29.0  sol_taoP
   : 34.0  sol_deltaP: 39.0   sol_deltaP - sol_taoP: 5.0  cl_i: 7630244.0    sol_c_i: 7630244.0  sol_gp_i: 0.0 total work: 7645676.0   wasted work: 0.
   05853347696135698
37     i: 8.0  l_i: 6.0   p_i: 0.0  al_i: 34.0      sol_a_i: 34.0  sol_g_i: 0.0   d_i: 43.0   sol_taoi: 34.0    sol_deltai: 41.0  sol_deltai - sol_taoi: 7.0   sol_taoP:
   34.0    sol_deltaP: 36.0   sol_deltaP - sol_taoP: 2.0  cl_i: 1705681.0    sol_c_i: 1705681.0  sol_gp_i: 0.0 total work: 1845508.0   wasted work: 0.
   5303629136259501
38     i: 9.0  l_i: 6.0   p_i: 0.0  al_i: 47.0      sol_a_i: 47.0  sol_g_i: 0.0   d_i: 66.0   sol_taoi: 47.0    sol_deltai: 67.0  sol_deltai - sol_taoi: 20.0  sol_taoP:
   47.0    sol_deltaP: 52.0   sol_deltaP - sol_taoP: 5.0  cl_i: 5229391.0    sol_c_i: 5229391.0  sol_gp_i: 0.0 total work: 5272880.0   wasted work: 0.
   16495349789868155
39     i: 10.0   l_i: 6.0   p_i: 19.0   al_i: 50.0      sol_a_i: 50.0  sol_g_i: 0.0   d_i: 68.0   sol_taoi: 50.0    sol_deltai: 67.0  sol_deltai - sol_taoi: 17.0
   sol_taoP: 50.0   sol_deltaP: 55.0   sol_deltaP - sol_taoP: 5.0  cl_i: 4322611.0    sol_c_i: 4322611.0  sol_gp_i: 0.0 total work: 4350126.0   wasted work
   : 0.10436421841574244
40 Time: 97.000000
41
42
43
44
```