```
1  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=54636
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 _□□□□1\\4 □□□□□\\3 python_code\\9 Code for this
   paper', 'E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□_□□□□/1_LW _□□□□1/4 □□□□□/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 _□□□□1/4 □□□□□/3 python_code/9 Code for this paper/
   main_ECCG_deterministic.py', wdir='E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□_□□□□/1_LW _□□□□1/4 □□□□□/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_10_5.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 = 306.0
17 The initial lb = -inf      ub = inf
18
19 The current iteration cnt = 0
20     The SP model was solved Optimal 2 and SPObj = 306.0
21     Deterministic Sub problem Status= 2 , is Optimal
22     Master protblem status = 2 , is Optimal
23     lb = 520.0              ub = 520.0
24      MPObj = 520.0     MP_delete_Hua_Obj = 306.0      Hua = 214.0      SPObj = 306.0      MP_SP_Obj = 214.0      Deter_SP_Obj = 214.0
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: 7.0  al_i: 56.0     sol_a_i: 56.0  sol_g_i: 0.0  d_i: 69.0  sol_taoi: 56.0   sol_deltai: 69.0  sol_deltai - sol_taoi: 13.0  sol_taoP:
   56.0  sol_deltaP: 59.0   sol_deltaP - sol_taoP: 3.0  cl_i: 3191174.0   sol_c_i: 3191174.0  sol_gp_i: 0.0  total work: 3295550.0  wasted work: 0.
   39589749814143316
30    i: 1.0  l_i: 5.0  p_i: 6.0  al_i: 15.0     sol_a_i: 15.0  sol_g_i: 0.0  d_i: 45.0  sol_taoi: 15.0   sol_deltai: 21.0  sol_deltai - sol_taoi: 6.0  sol_taoP:
   15.0  sol_deltaP: 17.0   sol_deltaP - sol_taoP: 2.0  cl_i: 1577868.0   sol_c_i: 1577868.0  sol_gp_i: 0.0  total work: 1581864.0  wasted work: 0.
   015156802354690416
31    i: 2.0  l_i: 5.0  p_i: 12.0  al_i: 19.0     sol_a_i: 19.0  sol_g_i: 0.0  d_i: 50.0  sol_taoi: 19.0   sol_deltai: 28.0  sol_deltai - sol_taoi: 9.0  sol_taoP
   : 19.0  sol_deltaP: 22.0   sol_deltaP - sol_taoP: 3.0  cl_i: 2274298.0   sol_c_i: 2274298.0  sol_gp_i: 0.0  total work: 2636440.0  wasted work: 1.
   3736022818649392
32    i: 3.0  l_i: 6.0  p_i: 0.0  al_i: 9.0     sol_a_i: 9.0  sol_g_i: 0.0  d_i: 55.0  sol_taoi: 9.0  sol_deltai: 35.0  sol_deltai - sol_taoi: 26.0  sol_taoP: 9.0
   sol_deltaP: 16.0   sol_deltaP - sol_taoP: 7.0  cl_i: 6695649.0   sol_c_i: 6695649.0  sol_gp_i: 0.0  total work: 6854744.0  wasted work: 0.
   6034463139688367
33    i: 4.0  l_i: 6.0  p_i: 23.0  al_i: 20.0     sol_a_i: 20.0  sol_g_i: 0.0  d_i: 42.0  sol_taoi: 20.0   sol_deltai: 25.0  sol_deltai - sol_taoi: 5.0  sol_taoP
   : 20.0  sol_deltaP: 21.0   sol_deltaP - sol_taoP: 1.0  cl_i: 1246108.0   sol_c_i: 1246108.0  sol_gp_i: 0.0  total work: 1318220.0  wasted work: 0.
   2735203532035624
34    i: 5.0  l_i: 5.0  p_i: 6.0  al_i: 3.0     sol_a_i: 3.0  sol_g_i: 0.0  d_i: 61.0  sol_taoi: 3.0  sol_deltai: 11.0  sol_deltai - sol_taoi: 8.0  sol_taoP: 3.0
   sol_deltaP: 5.0  sol_deltaP - sol_taoP: 2.0  cl_i: 1949433.0   sol_c_i: 1949433.0  sol_gp_i: 0.0  total work: 2109152.0  wasted work: 0.
   6058131419641638
35    i: 6.0  l_i: 6.0  p_i: 17.0  al_i: 9.0     sol_a_i: 9.0  sol_g_i: 0.0  d_i: 72.0  sol_taoi: 9.0  sol_deltai: 26.0  sol_deltai - sol_taoi: 17.0  sol_taoP: 9
   .0  sol_deltaP: 13.0   sol_deltaP - sol_taoP: 4.0  cl_i: 4381617.0   sol_c_i: 4381617.0  sol_gp_i: 0.0  total work: 4745592.0  wasted work: 1.
   3805548391012123
36    i: 7.0  l_i: 5.0  p_i: 11.0  al_i: 2.0     sol_a_i: 2.0  sol_g_i: 0.0  d_i: 77.0  sol_taoi: 2.0  sol_deltai: 8.0  sol_deltai - sol_taoi: 6.0  sol_taoP: 2
   .0  sol_deltaP: 4.0  sol_deltaP - sol_taoP: 2.0  cl_i: 1561690.0   sol_c_i: 1561690.0  sol_gp_i: 0.0  total work: 1713686.0  wasted work: 0.
   5765198525284095
37    i: 8.0  l_i: 6.0  p_i: 6.0  al_i: 22.0     sol_a_i: 22.0  sol_g_i: 0.0  d_i: 62.0  sol_taoi: 22.0   sol_deltai: 32.0  sol_deltai - sol_taoi: 10.0  sol_taoP:
   22.0  sol_deltaP: 25.0   sol_deltaP - sol_taoP: 3.0  cl_i: 2378507.0   sol_c_i: 2378507.0  sol_gp_i: 0.0  total work: 3295550.0  wasted work: 3.
   47783382136517424
38    i: 9.0  l_i: 7.0  p_i: 17.0  al_i: 28.0     sol_a_i: 28.0  sol_g_i: 0.0  d_i: 79.0  sol_taoi: 28.0   sol_deltai: 51.0  sol_deltai - sol_taoi: 23.0  sol_taoP
   : 28.0  sol_deltaP: 32.0   sol_deltaP - sol_taoP: 4.0  cl_i: 5961199.0   sol_c_i: 5961199.0  sol_gp_i: 0.0  total work: 6063812.0  wasted work: 0.
   38921045045591784
39 Time: 73.000000
40
41
42
43
```