```
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=56845

import sys; print('Python %s on %s' % (sys.version, sys.platform))
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'])

PyDev console: starting.

Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32
>>> 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')
Backend TkAgg is interactive backend. Turning interactive mode on.
Waiting 5s.....

Optimize the  ./R_8_2.xlsx  instance by ECCG for deterministic model

Set parameter MIPGap to value 0.01
      Master protblem status =  2 , is Optimal and MP obj =  384.0
The initial lb =  -inf       ub =  inf

The current iteration cnt =  0
      The SP model was solved Optimal 2 and SPObj =  384.0
      Deterministic Sub problem Status=  2 , is Optimal
      Master protblem status =  2 , is Optimal
      lb =  680.0                  ub =  680.0
       MPObj =  680.0     MP_delete_Hua_Obj =  384.0       Hua =  296.0       SPObj =  384.0       MP_SP_Obj =  296.0         Deter_SP_Obj =  296.0

ub - lb =  0.0

Iteration cycle stopped by termination criterion 1: Because ub - lb <= eps, the iteration stop, and cnt =  0
    i:  0.0  l_i:  7.0   p_i:  0.0  aI_i:  36.0       sol_a_i:  36.0  sol_g_i:  0.0   d_i:  49.0    sol_taoi:  36.0    sol_deltai:  49.0  sol_deltai - sol_taoi:  13.0  sol_taoP:  36.0    sol_deltaP:  40.0    sol_deltaP - sol_taoP:  4.0  cI_i:  3231032.0    sol_c_i:  3231032.0    sol_gp_i:  0.0  total work:  4218304.0    wasted work:  3.744716359939919
    i:  1.0  l_i:  5.0   p_i:  2.0  aI_i:  18.0       sol_a_i:  18.0  sol_g_i:  0.0   d_i:  27.0    sol_taoi:  18.0    sol_deltai:  27.0  sol_deltai - sol_taoi:  9.0    sol_taoP:  18.0    sol_deltaP:  23.0    sol_deltaP - sol_taoP:  5.0  cI_i:  2264047.0    sol_c_i:  2264047.0    sol_gp_i:  0.0  total work:  2636440.0    wasted work:  1.4124842590766336
    i:  2.0  l_i:  4.0   p_i:  0.0  aI_i:  63.0       sol_a_i:  63.0  sol_g_i:  0.0   d_i:  84.0    sol_taoi:  63.0    sol_deltai:  84.0  sol_deltai - sol_taoi:  21.0  sol_taoP:  63.0    sol_deltaP:  74.0    sol_deltaP - sol_taoP:  11.0    cI_i:  5503347.0    sol_c_i:  5503347.0    sol_gp_i:  0.0  total work:  5536524.0    wasted work:  0.12584014807846944
    i:  3.0  l_i:  4.0   p_i:  14.0    aI_i:  7.0        sol_a_i:  7.0   sol_g_i:  0.0   d_i:  28.0    sol_taoi:  7.0   sol_deltai:  28.0  sol_deltai - sol_taoi:  21.0  sol_taoP:  7.0    sol_deltaP:  12.0    sol_deltaP - sol_taoP:  5.0  cI_i:  5380388.0    sol_c_i:  5380388.0    sol_gp_i:  0.0  total work:  6195634.0    wasted work:  3.0922228459589447
    i:  4.0  l_i:  6.0   p_i:  7.0  aI_i:  44.0       sol_a_i:  44.0  sol_g_i:  0.0   d_i:  69.0    sol_taoi:  44.0    sol_deltai:  69.0  sol_deltai - sol_taoi:  25.0  sol_taoP:  44.0    sol_deltaP:  53.0    sol_deltaP - sol_taoP:  9.0  cI_i:  6546024.0    sol_c_i:  6546024.0    sol_gp_i:  0.0  total work:  7118388.0    wasted work:  2.17097297871372
    i:  5.0  l_i:  5.0   p_i:  20.0    aI_i:  29.0       sol_a_i:  29.0  sol_g_i:  0.0   d_i:  43.0    sol_taoi:  29.0    sol_deltai:  40.0  sol_deltai - sol_taoi:  11.0  sol_taoP:  29.0  sol_deltaP:  31.0    sol_deltaP - sol_taoP:  2.0  cI_i:  2721701.0    sol_c_i:  2721701.0    sol_gp_i:  0.0  total work:  2900084.0    wasted work:  0.6766055741833685
    i:  6.0  l_i:  7.0   p_i:  7.0  aI_i:  26.0       sol_a_i:  26.0  sol_g_i:  0.0   d_i:  44.0    sol_taoi:  26.0    sol_deltai:  38.0  sol_deltai - sol_taoi:  12.0  sol_taoP:  26.0    sol_deltaP:  28.0    sol_deltaP - sol_taoP:  2.0  cI_i:  3111183.0    sol_c_i:  3111183.0    sol_gp_i:  0.0  total work:  3691016.0    wasted work:  2.1993028477795815
    i:  7.0  l_i:  6.0   p_i:  14.0    aI_i:  33.0       sol_a_i:  33.0  sol_g_i:  0.0   d_i:  56.0    sol_taoi:  33.0    sol_deltai:  49.0  sol_deltai - sol_taoi:  16.0  sol_taoP:  33.0  sol_deltaP:  35.0    sol_deltaP - sol_taoP:  2.0  cI_i:  3984207.0    sol_c_i:  3984207.0    sol_gp_i:  0.0  total work:  4086482.0    wasted work:  0.3879284186251157
Time: 43.000000
```