```
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=22297

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_10_9.xlsx  instance by ECCG for deterministic model

Set parameter MIPGap to value 0.01
      Master protblem status =  2 , is Optimal and MP obj =  291.0
The initial lb =  -inf       ub =  inf

The current iteration cnt =  0
      The SP model was solved Optimal 2 and SPObj =  291.0
      Deterministic Sub problem Status=  2 , is Optimal
      Master protblem status =  2 , is Optimal
      lb =  489.0                  ub =  489.0
       MPObj =  489.0     MP_delete_Hua_Obj =  291.0       Hua =  198.0       SPObj =  291.0       MP_SP_Obj =  198.0         Deter_SP_Obj =  198.0

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:  6.0   p_i:  21.0    aI_i:  4.0       sol_a_i:  4.0   sol_g_i:  0.0   d_i:  15.0    sol_taoi:  4.0   sol_deltai:  15.0  sol_deltai - sol_taoi:  11.0   sol_taoP:  4.0     sol_deltaP:  6.0   sol_deltaP - sol_taoP:  2.0   cI_i:  2697405.0     sol_c_i:  2697405.0    sol_gp_i:  0.0  total work:  3427372.0    wasted work:  2.7687601462578324
    i:  1.0  l_i:  5.0   p_i:  0.0   aI_i:  23.0      sol_a_i:  23.0  sol_g_i:  0.0   d_i:  75.0    sol_taoi:  23.0    sol_deltai:  33.0  sol_deltai - sol_taoi:  10.0   sol_taoP:  23.0     sol_deltaP:  26.0     sol_deltaP - sol_taoP:  3.0   cI_i:  2552621.0     sol_c_i:  2552621.0    sol_gp_i:  0.0  total work:  2636440.0    wasted work:  0.31792492907102
    i:  2.0  l_i:  5.0   p_i:  0.0   aI_i:  35.0      sol_a_i:  35.0  sol_g_i:  0.0   d_i:  82.0    sol_taoi:  35.0    sol_deltai:  39.0  sol_deltai - sol_taoi:  4.0    sol_taoP:  35.0     sol_deltaP:  36.0     sol_deltaP - sol_taoP:  1.0   cI_i:  1000283.0     sol_c_i:  1000283.0    sol_gp_i:  0.0  total work:  1054576.0    wasted work:  0.20593300056136304
    i:  3.0  l_i:  6.0   p_i:  15.0    aI_i:  12.0      sol_a_i:  12.0  sol_g_i:  0.0   d_i:  66.0    sol_taoi:  12.0    sol_deltai:  46.0  sol_deltai - sol_taoi:  34.0   sol_taoP:  12.0     sol_deltaP:  19.0     sol_deltaP - sol_taoP:  7.0   cI_i:  8705747.0     sol_c_i:  8705747.0    sol_gp_i:  0.0  total work:  8832074.0    wasted work:  0.4791575002655096
    i:  4.0  l_i:  5.0   p_i:  10.0    aI_i:  27.0      sol_a_i:  27.0  sol_g_i:  0.0   d_i:  69.0    sol_taoi:  27.0    sol_deltai:  32.0  sol_deltai - sol_taoi:  5.0    sol_taoP:  27.0     sol_deltaP:  28.0     sol_deltaP - sol_taoP:  1.0   cI_i:  1106149.0     sol_c_i:  1106149.0    sol_gp_i:  0.0  total work:  1450042.0    wasted work:  1.3043839419823702
    i:  5.0  l_i:  5.0   p_i:  0.0   aI_i:  11.0      sol_a_i:  11.0  sol_g_i:  0.0   d_i:  32.0    sol_taoi:  11.0    sol_deltai:  15.0  sol_deltai - sol_taoi:  4.0    sol_taoP:  11.0     sol_deltaP:  12.0     sol_deltaP - sol_taoP:  1.0   cI_i:  1000415.0     sol_c_i:  1000415.0    sol_gp_i:  0.0  total work:  1054576.0    wasted work:  0.2054323254085054
    i:  6.0  l_i:  5.0   p_i:  5.0   aI_i:  8.0       sol_a_i:  8.0   sol_g_i:  0.0   d_i:  72.0    sol_taoi:  8.0   sol_deltai:  40.0  sol_deltai - sol_taoi:  32.0   sol_taoP:  8.0     sol_deltaP:  17.0     sol_deltaP - sol_taoP:  9.0   cI_i:  8373922.0     sol_c_i:  8373922.0    sol_gp_i:  0.0  total work:  8436608.0    wasted work:  0.23776759569722808
    i:  7.0  l_i:  5.0   p_i:  21.0    aI_i:  22.0      sol_a_i:  22.0  sol_g_i:  0.0   d_i:  67.0    sol_taoi:  22.0    sol_deltai:  27.0  sol_deltai - sol_taoi:  5.0    sol_taoP:  22.0     sol_deltaP:  23.0     sol_deltaP - sol_taoP:  1.0   cI_i:  1102446.0     sol_c_i:  1102446.0    sol_gp_i:  0.0  total work:  1581864.0    wasted work:  1.8184293972174599
    i:  8.0  l_i:  5.0   p_i:  10.0    aI_i:  9.0       sol_a_i:  9.0   sol_g_i:  0.0   d_i:  41.0    sol_taoi:  9.0   sol_deltai:  22.0  sol_deltai - sol_taoi:  13.0   sol_taoP:  9.0     sol_deltaP:  12.0     sol_deltaP - sol_taoP:  3.0   cI_i:  3242150.0     sol_c_i:  3242150.0    sol_gp_i:  0.0  total work:  3559194.0    wasted work:  1.2025458572924095
    i:  9.0  l_i:  5.0   p_i:  0.0   aI_i:  17.0      sol_a_i:  17.0  sol_g_i:  0.0   d_i:  52.0    sol_taoi:  17.0    sol_deltai:  22.0  sol_deltai - sol_taoi:  5.0    sol_taoP:  17.0     sol_deltaP:  19.0     sol_deltaP - sol_taoP:  2.0   cI_i:  1282087.0     sol_c_i:  1282087.0    sol_gp_i:  0.0  total work:  1318220.0    wasted work:  0.13705223710761483
Time: 56.000000
```