```
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=24531

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_RO_CCG_ExtendedByMe.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_11_3.xlsx  instance by ECCG

      Master protblem status =  2 , is Optimal and MP obj =  346.0
The initial lb =  -inf       ub =  inf

The current iteration cnt =  0
      The SP model was solved Optimal 2 and SPObj =  346.0
      Deterministic Sub problem Status=  2 , is Optimal
      Master protblem status =  2 , is Optimal
      lb =  660.0                  ub =  660.0
       MPObj =  660.0     MP_delete_Hua_Obj =  369.0       Hua =  291.0       SPObj =  346.0       Deter_SP_Obj =  291.0

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:  5.0   p_i:  4.0   aI_i:  3.0       sol_a_i:  3.0    sol_g_i:  0.0    d_i:  12.0    sol_taoi:  3.0   sol_deltai:  7.0    sol_deltai - sol_taoi:  4.0    sol_taoP:  3.0    sol_deltaP:  4.0   sol_deltaP - sol_taoP:  1.0   cl_i:  1004598.0     sol_c_i:  1004598.0    sol_gp_i:  0.0  total work:  1054576.0    wasted work:  0.18956623325393335
    i:  1.0  l_i:  5.0   p_i:  12.0    aI_i:  4.0       sol_a_i:  4.0    sol_g_i:  0.0    d_i:  25.0    sol_taoi:  4.0   sol_deltai:  18.0   sol_deltai - sol_taoi:  14.0   sol_taoP:  4.0    sol_deltaP:  7.0   sol_deltaP - sol_taoP:  3.0   cl_i:  3514722.0     sol_c_i:  3514722.0    sol_gp_i:  0.0  total work:  3691016.0    wasted work:  0.6686820105900381
    i:  2.0  l_i:  5.0   p_i:  17.0    aI_i:  9.0       sol_a_i:  9.0    sol_g_i:  0.0    d_i:  27.0    sol_taoi:  9.0   sol_deltai:  17.0   sol_deltai - sol_taoi:  8.0    sol_taoP:  9.0    sol_deltaP:  11.0    sol_deltaP - sol_taoP:  2.0   cl_i:  1965294.0     sol_c_i:  1965294.0    sol_gp_i:  0.0  total work:  2109152.0    wasted work:  0.5456524707560195
    i:  3.0  l_i:  5.0   p_i:  27.0    aI_i:  9.0       sol_a_i:  9.0    sol_g_i:  0.0    d_i:  30.0    sol_taoi:  9.0   sol_deltai:  17.0   sol_deltai - sol_taoi:  8.0    sol_taoP:  9.0    sol_deltaP:  11.0    sol_deltaP - sol_taoP:  2.0   cl_i:  1881520.0     sol_c_i:  1881520.0    sol_gp_i:  0.0  total work:  2636440.0    wasted work:  2.863406715115838
    i:  4.0  l_i:  5.0   p_i:  22.0    aI_i:  14.0      sol_a_i:  14.0   sol_g_i:  0.0    d_i:  29.0    sol_taoi:  14.0    sol_deltai:  18.0   sol_deltai - sol_taoi:  4.0    sol_taoP:  14.0   sol_deltaP:  15.0    sol_deltaP - sol_taoP:  1.0   cl_i:  1031972.0     sol_c_i:  1031972.0    sol_gp_i:  0.0  total work:  1054576.0    wasted work:  0.08573682693328882
    i:  5.0  l_i:  6.0   p_i:  -0.0    aI_i:  16.0      sol_a_i:  16.0   sol_g_i:  0.0    d_i:  28.0    sol_taoi:  16.0    sol_deltai:  26.0   sol_deltai - sol_taoi:  10.0   sol_taoP:  16.0   sol_deltaP:  19.0    sol_deltaP - sol_taoP:  3.0   cl_i:  2408183.0     sol_c_i:  2408183.0    sol_gp_i:  0.0  total work:  3163728.0    wasted work:  2.865777336104747
    i:  6.0  l_i:  5.0   p_i:  6.0   aI_i:  25.0      sol_a_i:  26.0   sol_g_i:  0.2    d_i:  55.0    sol_taoi:  26.0    sol_deltai:  37.0   sol_deltai - sol_taoi:  11.0   sol_taoP:  26.0    sol_deltaP:  30.0    sol_deltaP - sol_taoP:  4.0   cl_i:  2865744.0     sol_c_i:  4131235.2    sol_gp_i:  0.8  total work:  4218304.0    wasted work:  0.3302513996146311
    i:  7.0  l_i:  6.0   p_i:  27.0    aI_i:  32.0      sol_a_i:  32.0   sol_g_i:  0.0    d_i:  60.0    sol_taoi:  32.0    sol_deltai:  40.0   sol_deltai - sol_taoi:  8.0    sol_taoP:  32.0   sol_deltaP:  34.0    sol_deltaP - sol_taoP:  2.0   cl_i:  1874041.0     sol_c_i:  2000613.3428571422   sol_gp_i:  0.12002202103702542   total work:  2109152.0    wasted work:  0.41168642996942006
    i:  8.0  l_i:  5.0   p_i:  -0.0    aI_i:  36.0      sol_a_i:  44.0   sol_g_i:  0.8    d_i:  80.0    sol_taoi:  44.0    sol_deltai:  60.0   sol_deltai - sol_taoi:  16.0   sol_taoP:  44.0   sol_deltaP:  48.0    sol_deltaP - sol_taoP:  4.0   cl_i:  4027204.0     sol_c_i:  4218304.0    sol_gp_i:  0.18121026839222587   total work:  4218304.0    wasted work:  0.0
    i:  9.0  l_i:  5.0   p_i:  9.0   aI_i:  41.0      sol_a_i:  48.0   sol_g_i:  1.0    d_i:  67.0    sol_taoi:  48.0    sol_deltai:  59.0   sol_deltai - sol_taoi:  11.0   sol_taoP:  48.0    sol_deltaP:  51.0    sol_deltaP - sol_taoP:  3.0   cl_i:  2691443.0     sol_c_i:  4350126.0    sol_gp_i:  0.898767710570748   total work:  4350126.0    wasted work:  0.0
    i:  10.0   l_i:  5.0   p_i:  14.0    aI_i:  50.0      sol_a_i:  57.0   sol_g_i:  1.0    d_i:  82.0    sol_taoi:  57.0    sol_deltai:  70.0   sol_deltai - sol_taoi:  13.0   sol_taoP:  57.0    sol_deltaP:  61.0    sol_deltaP - sol_taoP:  4.0   cl_i:  3188206.0     sol_c_i:  3715494.0    sol_gp_i:  1.0  total work:  3954660.0    wasted work:  0.9071551030935656
Time: 50.000000
```