```
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=24159

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_2.xlsx  instance by ECCG

      Master protblem status =  2 , is Optimal and MP obj =  417.0
The initial lb =  -inf       ub =  inf

The current iteration cnt =  0
      The SP model was solved Optimal 2 and SPObj =  417.0
      Deterministic Sub problem Status=  2 , is Optimal
      Master protblem status =  2 , is Optimal
      lb =  767.0                  ub =  767.0
       MPObj =  767.0     MP_delete_Hua_Obj =  440.0       Hua =  327.0       SPObj =  417.0       Deter_SP_Obj =  327.0

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:  9.0   aI_i:  0.0       sol_a_i:  0.0   sol_g_i:  0.0   d_i:  9.0   sol_taoi:  0.0   sol_deltai:  9.0    sol_deltai - sol_taoi:  9.0    sol_taoP:  0.0   sol_deltaP:  2.0    sol_deltaP - sol_taoP:  2.0   cI_i:  2312530.0    sol_c_i:  2312530.0    sol_gp_i:  0.0  total work:  2504618.0    wasted work:  0.7285885512281713
    i:  1.0  l_i:  6.0   p_i:  6.0   aI_i:  40.0      sol_a_i:  40.0  sol_g_i:  0.0   d_i:  61.0    sol_taoi:  40.0    sol_deltai:  61.0  sol_deltai - sol_taoi:  21.0   sol_taoP:  40.0    sol_deltaP:  47.0    sol_deltaP - sol_taoP:  7.0   cI_i:  5512574.0    sol_c_i:  5512574.0    sol_gp_i:  0.0  total work:  5536524.0    wasted work:  0.09084219629500387
    i:  2.0  l_i:  6.0   p_i:  0.0   aI_i:  42.0      sol_a_i:  42.0  sol_g_i:  0.0   d_i:  51.0    sol_taoi:  42.0    sol_deltai:  51.0  sol_deltai - sol_taoi:  9.0    sol_taoP:  42.0    sol_deltaP:  45.0    sol_deltaP - sol_taoP:  3.0   cI_i:  2136032.0    sol_c_i:  2136032.0    sol_gp_i:  0.0  total work:  2372796.0    wasted work:  0.8980443325089894
    i:  3.0  l_i:  6.0   p_i:  12.0    aI_i:  40.0      sol_a_i:  40.0  sol_g_i:  0.0   d_i:  56.0    sol_taoi:  40.0    sol_deltai:  56.0  sol_deltai - sol_taoi:  16.0   sol_taoP:  40.0   sol_deltaP:  45.0    sol_deltaP - sol_taoP:  5.0   cI_i:  4086770.0    sol_c_i:  4086770.0    sol_gp_i:  0.0  total work:  4350126.0    wasted work:  0.9989076178483106
    i:  4.0  l_i:  7.0   p_i:  0.0   aI_i:  0.0       sol_a_i:  0.0   sol_g_i:  0.0   d_i:  19.0    sol_taoi:  0.0   sol_deltai:  19.0  sol_deltai - sol_taoi:  19.0   sol_taoP:  0.0   sol_deltaP:  10.0    sol_deltaP - sol_taoP:  10.0    cI_i:  4903108.0    sol_c_i:  4903108.0    sol_gp_i:  0.0  total work:  5009236.0    wasted work:  0.4025428228975437
    i:  5.0  l_i:  4.0   p_i:  22.0    aI_i:  29.0      sol_a_i:  29.0  sol_g_i:  0.0   d_i:  46.0    sol_taoi:  29.0    sol_deltai:  46.0  sol_deltai - sol_taoi:  17.0   sol_taoP:  29.0   sol_deltaP:  32.0    sol_deltaP - sol_taoP:  3.0   cI_i:  4458302.0    sol_c_i:  4458302.0    sol_gp_i:  0.0  total work:  4745592.0    wasted work:  1.0896891262459985
    i:  6.0  l_i:  7.0   p_i:  7.0   aI_i:  15.0      sol_a_i:  16.0  sol_g_i:  0.2   d_i:  30.0    sol_taoi:  16.0    sol_deltai:  27.0  sol_deltai - sol_taoi:  11.0   sol_taoP:  16.0    sol_deltaP:  19.0    sol_deltaP - sol_taoP:  3.0   cI_i:  2683358.0    sol_c_i:  3904738.700000001    sol_gp_i:  0.7721148594316585    total work:  3954660.0    wasted work:  0.18935117051781525
    i:  7.0  l_i:  5.0   p_i:  25.0    aI_i:  2.0       sol_a_i:  9.0   sol_g_i:  0.8750000000000018  d_i:  13.0    sol_taoi:  9.0   sol_deltai:  20.0   sol_deltai - sol_taoi:  11.0    sol_taoP:  9.0   sol_deltaP:  11.0    sol_deltaP - sol_taoP:  2.0   cI_i:  2870677.0    sol_c_i:  2900084.0    sol_gp_i:  0.027885140568342157    total work:  2900084.0    wasted work:  0.0
    i:  8.0  l_i:  5.0   p_i:  17.0    aI_i:  5.0       sol_a_i:  7.0   sol_g_i:  0.2   d_i:  36.0    sol_taoi:  7.0   sol_deltai:  30.0   sol_deltai - sol_taoi:  23.0   sol_taoP:  7.0    sol_deltaP:  15.0    sol_deltaP - sol_taoP:  8.0   cI_i:  5826902.0    sol_c_i:  6881478.0    sol_gp_i:  1.0  total work:  6986566.0    wasted work:  0.3985981095719986
    i:  9.0  l_i:  5.0   p_i:  18.0    aI_i:  41.0      sol_a_i:  48.0  sol_g_i:  1.0   d_i:  59.0    sol_taoi:  48.0    sol_deltai:  62.0  sol_deltai - sol_taoi:  14.0   sol_taoP:  48.0   sol_deltaP:  53.0    sol_deltaP - sol_taoP:  5.0   cI_i:  3459980.0    sol_c_i:  3954658.0999999987  sol_gp_i:  0.26804440836886023   total work:  4350126.0    wasted work:  1.5000072066878112
    i:  10.0   l_i:  4.0   p_i:  30.0    aI_i:  38.0      sol_a_i:  43.07499999999996   sol_g_i:  0.7249999999999934  d_i:  56.0    sol_taoi:  44.0    sol_deltai:  59.0    sol_deltai - sol_taoi:  15.0   sol_taoP:  44.0    sol_deltaP:  48.0    sol_deltaP - sol_taoP:  4.0   cI_i:  3851069.0    sol_c_i:  4342478.0    sol_gp_i:  0.9319555916311391    total work:  4350126.0    wasted work:  0.02900881491708516
Time: 76.000000
```