```
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=24404

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.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 CCG

        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
        Master protblem status =  2 , is Optimal
        Deterministic Sub problem Status=  2 , is Optimal
        lb =  756.0                    ub =  756.0
         MPObj =  756.0      MP_delete_Hua_Obj =  437.0        Hua =  319.0       SPObj =  417.0       Deter_SP_Obj =  319.0

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:  7.0   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:  2372796.0    wasted work:  0.22858855122817132
    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:  45.0    sol_deltaP - sol_taoP:  5.0   cI_i:  5512574.0     sol_c_i:  5512574.0    sol_gp_i:  0.0  total work:  5668346.0    wasted work:  0.5908421962950039
    i:  2.0  l_i:  6.0   p_i:  22.0    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:  44.0    sol_deltaP - sol_taoP:  2.0   cI_i:  2136032.0     sol_c_i:  2136032.0    sol_gp_i:  0.0  total work:  2636440.0    wasted work:  1.8980443325089893
    i:  3.0  l_i:  6.0   p_i:  28.0    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:  47.0    sol_deltaP - sol_taoP:  7.0   cI_i:  4086770.0     sol_c_i:  4086770.0    sol_gp_i:  0.0  total work:  4218304.0    wasted work:  0.4989076178483106
    i:  4.0  l_i:  7.0   p_i:  12.0    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:  6.0   sol_deltaP - sol_taoP:  6.0   cI_i:  4903108.0     sol_c_i:  4903108.0    sol_gp_i:  0.0  total work:  5141058.0    wasted work:  0.9025428228975436
    i:  5.0  l_i:  4.0   p_i:  12.0    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:  27.0    aI_i:  15.0       sol_a_i:  19.0  sol_g_i:  0.8    d_i:  30.0    sol_taoi:  19.0    sol_deltai:  30.0  sol_deltai - sol_taoi:  11.0   sol_taoP:  19.0   sol_deltaP:  22.0    sol_deltaP - sol_taoP:  3.0   cI_i:  2683358.0     sol_c_i:  2768262.0    sol_gp_i:  0.05367338785129442  total work:  3031906.0    wasted work:  1.0
    i:  7.0  l_i:  5.0   p_i:  25.0    aI_i:  2.0        sol_a_i:  5.0   sol_g_i:  0.37500000000000144   d_i:  13.0    sol_taoi:  5.0   sol_deltai:  16.0  sol_deltai - sol_taoi:  11.0  sol_taoP:  5.0  sol_deltaP:  7.0   sol_deltaP - sol_taoP:  2.0   cI_i:  2870677.0     sol_c_i:  3134014.904761905    sol_gp_i:  0.24970974568158652    total work:  3163728.0    wasted work:  0.11270157954702231
    i:  8.0  l_i:  5.0   p_i:  19.0    aI_i:  5.0        sol_a_i:  5.0   sol_g_i:  0.0    d_i:  36.0    sol_taoi:  5.0   sol_deltai:  28.0  sol_deltai - sol_taoi:  23.0   sol_taoP:  5.0    sol_deltaP:  12.0    sol_deltaP - sol_taoP:  7.0   cI_i:  5826902.0     sol_c_i:  6881478.0    sol_gp_i:  1.0  total work:  7513854.0    wasted work:  2.398598109571999
    i:  9.0  l_i:  5.0   p_i:  12.0    aI_i:  41.0       sol_a_i:  47.0  sol_g_i:  0.8571428571428571  d_i:  59.0    sol_taoi:  47.0    sol_deltai:  61.0  sol_deltai - sol_taoi:  14.0  sol_taoP:  47.0   sol_deltaP:  53.0    sol_deltaP - sol_taoP:  6.0   cI_i:  3459980.0     sol_c_i:  4745592.0    sol_gp_i:  0.6966168664671191  total work:  4745592.0    wasted work:  0.0
    i:  10.0   l_i:  4.0   p_i:  18.0    aI_i:  38.0       sol_a_i:  44.77499999999997    sol_g_i:  0.9678571428571381  d_i:  56.0    sol_taoi:  45.0    sol_deltai:  60.0    sol_deltai - sol_taoi:  15.0  sol_taoP:  45.0   sol_deltaP:  49.0    sol_deltaP - sol_taoP:  4.0   cI_i:  3851069.0     sol_c_i:  4378357.0    sol_gp_i:  1.0  total work:  4613770.0    wasted work:  0.8929199981793631
Time: 106.000000
```