```
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=37032

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_10_2.xlsx  instance by CCG

      Master protblem status =  2 , is Optimal and MP obj =  444.0
The initial lb =  -inf       ub =  inf

The current iteration cnt =  0
      The SP model was solved Optimal 2 and SPObj =  444.0
      Master protblem status =  2 , is Optimal
      Deterministic Sub problem Status=  2 , is Optimal
      lb =  767.0                  ub =  767.0
       MPObj =  767.0     MP_delete_Hua_Obj =  459.0       Hua =  308.0       SPObj =  444.0       Deter_SP_Obj =  308.0

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:  1.0  al_i:  5.0       sol_a_i:  5.0   sol_g_i:  0.0   d_i:  14.0   sol_taoi:  5.0   sol_deltai:  14.0   sol_deltai - sol_taoi:  9.0    sol_taoP:  5.0    sol_deltaP:  8.0   sol_deltaP - sol_taoP:  3.0   cl_i:  2139788.0     sol_c_i:  2139788.0    sol_gp_i:  0.0  total work:  2768262.0    wasted work:  2.3837978486140403
    i:  1.0  l_i:  7.0   p_i:  21.0    al_i:  18.0      sol_a_i:  18.0  sol_g_i:  0.0    d_i:  32.0    sol_taoi:  18.0    sol_deltai:  32.0  sol_deltai - sol_taoi:  14.0   sol_taoP:  18.0  sol_deltaP:  20.0    sol_deltaP - sol_taoP:  2.0   cl_i:  3690865.0     sol_c_i:  3690865.0    sol_gp_i:  0.0  total work:  3691016.0    wasted work:  0.0005727420309204837
    i:  2.0  l_i:  7.0   p_i:  6.0   al_i:  51.0      sol_a_i:  51.0  sol_g_i:  0.0    d_i:  71.0    sol_taoi:  51.0    sol_deltai:  71.0  sol_deltai - sol_taoi:  20.0   sol_taoP:  51.0    sol_deltaP:  54.0    sol_deltaP - sol_taoP:  3.0   cl_i:  5078032.0     sol_c_i:  5078032.0    sol_gp_i:  0.0  total work:  5272880.0    wasted work:  0.7390572135151947
    i:  3.0  l_i:  6.0   p_i:  7.0   al_i:  11.0      sol_a_i:  11.0  sol_g_i:  0.0    d_i:  32.0    sol_taoi:  11.0    sol_deltai:  32.0  sol_deltai - sol_taoi:  21.0   sol_taoP:  11.0    sol_deltaP:  14.0    sol_deltaP - sol_taoP:  3.0   cl_i:  5446369.0     sol_c_i:  5446369.0    sol_gp_i:  0.0  total work:  5668346.0    wasted work:  0.8419573364081868
    i:  4.0  l_i:  6.0   p_i:  -0.0    al_i:  40.0      sol_a_i:  40.0  sol_g_i:  0.0    d_i:  60.0    sol_taoi:  40.0    sol_deltai:  60.0  sol_deltai - sol_taoi:  20.0   sol_taoP:  40.0  sol_deltaP:  43.0    sol_deltaP - sol_taoP:  3.0   cl_i:  5202834.0     sol_c_i:  5202834.0    sol_gp_i:  0.0  total work:  6327456.0    wasted work:  4.265684028462624
    i:  5.0  l_i:  4.0   p_i:  13.0    al_i:  22.0      sol_a_i:  26.0  sol_g_i:  0.8    d_i:  44.0    sol_taoi:  26.0    sol_deltai:  48.0  sol_deltai - sol_taoi:  22.0   sol_taoP:  26.0  sol_deltaP:  31.0    sol_deltaP - sol_taoP:  5.0   cl_i:  5709150.0     sol_c_i:  6854744.0    sol_gp_i:  0.7242051149782784    total work:  7777498.0    wasted work:  3.5
    i:  6.0  l_i:  5.0   p_i:  29.0    al_i:  2.0       sol_a_i:  2.0   sol_g_i:  0.0    d_i:  21.0    sol_taoi:  2.0   sol_deltai:  20.0   sol_deltai - sol_taoi:  18.0   sol_taoP:  2.0    sol_deltaP:  5.0   sol_deltaP - sol_taoP:  3.0   cl_i:  4706531.0     sol_c_i:  5208292.866666666    sol_gp_i:  0.4757948850217222    total work:  5272880.0    wasted work:  0.24497858222957386
    i:  7.0  l_i:  6.0   p_i:  13.0    al_i:  47.0      sol_a_i:  52.0  sol_g_i:  1.0    d_i:  66.0    sol_taoi:  52.0    sol_deltai:  71.0  sol_deltai - sol_taoi:  19.0   sol_taoP:  52.0  sol_deltaP:  57.0    sol_deltaP - sol_taoP:  5.0   cl_i:  4994677.0     sol_c_i:  5627422.6    sol_gp_i:  0.6  total work:  5668346.0    wasted work:  0.1552221935640499
    i:  8.0  l_i:  5.0   p_i:  19.0    al_i:  43.0      sol_a_i:  46.0  sol_g_i:  0.6    d_i:  65.0    sol_taoi:  46.0    sol_deltai:  66.0  sol_deltai - sol_taoi:  20.0   sol_taoP:  46.0  sol_deltaP:  51.0    sol_deltaP - sol_taoP:  5.0   cl_i:  5174489.0     sol_c_i:  5543590.6    sol_gp_i:  0.2  total work:  6591100.0    wasted work:  3.973196431551639
    i:  9.0  l_i:  4.0   p_i:  17.0    al_i:  16.0      sol_a_i:  19.0  sol_g_i:  0.6    d_i:  45.0    sol_taoi:  19.0    sol_deltai:  45.0  sol_deltai - sol_taoi:  26.0   sol_taoP:  19.0  sol_deltaP:  25.0    sol_deltaP - sol_taoP:  6.0   cl_i:  6782880.0     sol_c_i:  7310168.0    sol_gp_i:  1.0  total work:  7382032.0    wasted work:  0.2725796907951632
Time: 125.000000
```