```
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=35509

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_14_2.xlsx  instance by CCG

      Master protblem status =  2 , is Optimal and MP obj =  727.0
The initial lb =  -inf       ub =  inf

The current iteration cnt =  0
      The SP model was solved Optimal 2 and SPObj =  727.0
      Master protblem status =  2 , is Optimal
      Deterministic Sub problem Status=  2 , is Optimal
      lb =  1343.0                  ub =  1343.0
       MPObj =  1343.0       MP_delete_Hua_Obj =  756.0       Hua =  587.0       SPObj =  727.0       Deter_SP_Obj =  587.0

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:  19.0  al_i:  4.0  sol_a_i:  4.0  sol_g_i:  0.0  d_i:  22.0  sol_taoi:  4.0  sol_deltai:  22.0  sol_deltai - sol_taoi:  18.0  sol_taoP:  4.0  sol_deltaP:  7.0  sol_deltaP - sol_taoP:  3.0  cl_i:  4685060.0  sol_c_i:  4685060.0  sol_gp_i:  0.0  total work:  4745592.0  wasted work:  0.2295974875210511
    i:  1.0  l_i:  4.0  p_i:  14.0  al_i:  28.0  sol_a_i:  28.0  sol_g_i:  0.0  d_i:  50.0  sol_taoi:  28.0  sol_deltai:  50.0  sol_deltai - sol_taoi:  22.0  sol_taoP:  28.0  sol_deltaP:  37.0  sol_deltaP - sol_taoP:  9.0  cl_i:  5547998.0  sol_c_i:  5547998.0  sol_gp_i:  0.0  total work:  5668346.0  wasted work:  0.45647919163720774
    i:  2.0  l_i:  6.0  p_i:  8.0  al_i:  41.0  sol_a_i:  41.0  sol_g_i:  0.0  d_i:  57.0  sol_taoi:  42.0  sol_deltai:  58.0  sol_deltai - sol_taoi:  16.0  sol_taoP:  42.0  sol_deltaP:  46.0  sol_deltaP - sol_taoP:  4.0  cl_i:  4024100.0  sol_c_i:  4024100.0  sol_gp_i:  0.0  total work:  4218304.0  wasted work:  0.7366145256482226
    i:  3.0  l_i:  6.0  p_i:  24.0  al_i:  7.0  sol_a_i:  7.0  sol_g_i:  0.0  d_i:  18.0  sol_taoi:  7.0  sol_deltai:  18.0  sol_deltai - sol_taoi:  11.0  sol_taoP:  7.0  sol_deltaP:  9.0  sol_deltaP - sol_taoP:  2.0  cl_i:  2661338.0  sol_c_i:  2661338.0  sol_gp_i:  0.0  total work:  2900084.0  wasted work:  0.9055620457890186
    i:  4.0  l_i:  7.0  p_i:  7.0  al_i:  19.0  sol_a_i:  19.0  sol_g_i:  0.0  d_i:  41.0  sol_taoi:  19.0  sol_deltai:  41.0  sol_deltai - sol_taoi:  22.0  sol_taoP:  19.0  sol_deltaP:  24.0  sol_deltaP - sol_taoP:  5.0  cl_i:  5638936.0  sol_c_i:  5638936.0  sol_gp_i:  0.0  total work:  5800168.0  wasted work:  0.6115519412541154
    i:  5.0  l_i:  4.0  p_i:  18.0  al_i:  33.0  sol_a_i:  33.0  sol_g_i:  0.0  d_i:  41.0  sol_taoi:  33.0  sol_deltai:  41.0  sol_deltai - sol_taoi:  8.0  sol_taoP:  33.0  sol_deltaP:  36.0  sol_deltaP - sol_taoP:  3.0  cl_i:  2066692.0  sol_c_i:  2066692.0  sol_gp_i:  0.0  total work:  2109152.0  wasted work:  0.1610505075025413
    i:  6.0  l_i:  6.0  p_i:  14.0  al_i:  57.0  sol_a_i:  57.0  sol_g_i:  0.0  d_i:  73.0  sol_taoi:  57.0  sol_deltai:  73.0  sol_deltai - sol_taoi:  16.0  sol_taoP:  57.0  sol_deltaP:  60.0  sol_deltaP - sol_taoP:  3.0  cl_i:  4162240.0  sol_c_i:  4162240.0  sol_gp_i:  0.0  total work:  4350126.0  wasted work:  0.7126503921955364
    i:  7.0  l_i:  6.0  p_i:  28.0  al_i:  24.0  sol_a_i:  27.0  sol_g_i:  0.6  d_i:  53.0  sol_taoi:  27.0  sol_deltai:  52.0  sol_deltai - sol_taoi:  25.0  sol_taoP:  27.0  sol_deltaP:  32.0  sol_deltaP - sol_taoP:  5.0  cl_i:  6393863.0  sol_c_i:  6591100.0  sol_gp_i:  0.12468644586386693  total work:  6591100.0  wasted work:  0.0
    i:  8.0  l_i:  4.0  p_i:  22.0  al_i:  26.0  sol_a_i:  26.0  sol_g_i:  0.0  d_i:  49.0  sol_taoi:  26.0  sol_deltai:  43.0  sol_deltai - sol_taoi:  17.0  sol_taoP:  26.0  sol_deltaP:  34.0  sol_deltaP - sol_taoP:  8.0  cl_i:  4476396.0  sol_c_i:  5404702.0  sol_gp_i:  0.8802646750921698  total work:  5404702.0  wasted work:  0.0
    i:  9.0  l_i:  5.0  p_i:  9.0  al_i:  56.0  sol_a_i:  61.26984126984127  sol_g_i:  0.526984126984127  d_i:  71.0  sol_taoi:  62.0  sol_deltai:  71.0  sol_deltai - sol_taoi:  9.0  sol_taoP:  62.0  sol_deltaP:  64.0  sol_deltaP - sol_taoP:  2.0  cl_i:  2297903.0  sol_c_i:  2372796.0  sol_gp_i:  0.07101716708895328  total work:  2504618.0  wasted work:  0.5
    i:  10.0  l_i:  6.0  p_i:  3.0  al_i:  62.0  sol_a_i:  68.0  sol_g_i:  0.8571428571428571  d_i:  75.0  sol_taoi:  68.0  sol_deltai:  81.0  sol_deltai - sol_taoi:  13.0  sol_taoP:  68.0  sol_deltaP:  72.0  sol_deltaP - sol_taoP:  4.0  cl_i:  3207790.0  sol_c_i:  4086482.0  sol_gp_i:  0.47612473096838376  total work:  4218304.0  wasted work:  0.5
    i:  11.0  l_i:  7.0  p_i:  27.0  al_i:  64.0  sol_a_i:  68.0  sol_g_i:  0.5714285714285714  d_i:  78.0  sol_taoi:  68.0  sol_deltai:  82.0  sol_deltai - sol_taoi:  14.0  sol_taoP:  68.0  sol_deltaP:  72.0  sol_deltaP - sol_taoP:  4.0  cl_i:  3542983.0  sol_c_i:  4070271.0  sol_gp_i:  1.0  total work:  4350126.0  wasted work:  1.0614882189619335
    i:  12.0  l_i:  4.0  p_i:  23.0  al_i:  43.0  sol_a_i:  49.0  sol_g_i:  1.0  d_i:  70.0  sol_taoi:  49.0  sol_deltai:  76.0  sol_deltai - sol_taoi:  27.0  sol_taoP:  49.0  sol_deltaP:  56.0  sol_deltaP - sol_taoP:  7.0  cl_i:  6925738.0  sol_c_i:  8243958.0  sol_gp_i:  1.0  total work:  8304786.0  wasted work:  0.23072021362139855
    i:  13.0  l_i:  7.0  p_i:  0.0  al_i:  28.0  sol_a_i:  32.0  sol_g_i:  0.4444444444444444  d_i:  46.0  sol_taoi:  32.0  sol_deltai:  48.0  sol_deltai - sol_taoi:  16.0  sol_taoP:  32.0  sol_deltaP:  38.0  sol_deltaP - sol_taoP:  6.0  cl_i:  4046170.0  sol_c_i:  4990873.904761905  sol_gp_i:  0.4479069809866262  total work:  5009236.0  wasted work:  0.06964730939484741
Time: 7968.000000
```