```
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=2557

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_13_5.xlsx  instance by CCG

      Master protblem status =  2 , is Optimal and MP obj =  540.0
The initial lb =  -inf       ub =  inf

The current iteration cnt =  0
      The SP model was solved Optimal 2 and SPObj =  540.0
      Master protblem status =  2 , is Optimal
      Deterministic Sub problem Status=  2 , is Optimal
      lb =  1013.0                  ub =  1013.0
       MPObj =  1013.0       MP_delete_Hua_Obj =  568.0       Hua =  445.0       SPObj =  540.0       Deter_SP_Obj =  445.0

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: 29.0  al_i: 18.0  sol_a_i: 18.0  sol_g_i: 0.0  d_i: 33.0  sol_taoi: 18.0  sol_deltai: 33.0  sol_deltai - sol_taoi: 15.0  sol_taoP: 18.0  sol_deltaP: 22.0  sol_deltaP - sol_taoP: 4.0  cl_i: 3914279.0  sol_c_i: 3914279.0  sol_gp_i: 0.0  total work: 3954660.0  wasted work: 0.15316487384503347
    i: 1.0  l_i: 6.0  p_i: 28.0  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: 2145887.0  sol_c_i: 2145887.0  sol_gp_i: 0.0  total work: 2240974.0  wasted work: 0.36066438075586776
    i: 2.0  l_i: 7.0  p_i: 19.0  al_i: 53.0  sol_a_i: 53.0  sol_g_i: 0.0  d_i: 69.0  sol_taoi: 53.0  sol_deltai: 69.0  sol_deltai - sol_taoi: 16.0  sol_taoP: 53.0  sol_deltaP: 57.0  sol_deltaP - sol_taoP: 4.0  cl_i: 4050162.0  sol_c_i: 4050162.0  sol_gp_i: 0.0  total work: 4481948.0  wasted work: 1.6377615269074965
    i: 3.0  l_i: 6.0  p_i: 0.0  al_i: 17.0  sol_a_i: 17.0  sol_g_i: 0.0  d_i: 34.0  sol_taoi: 17.0  sol_deltai: 34.0  sol_deltai - sol_taoi: 17.0  sol_taoP: 17.0  sol_deltaP: 23.0  sol_deltaP - sol_taoP: 6.0  cl_i: 4312057.0  sol_c_i: 4312057.0  sol_gp_i: 0.0  total work: 4481948.0  wasted work: 0.6443954726828602
    i: 4.0  l_i: 7.0  p_i: 26.0  al_i: 49.0  sol_a_i: 49.0  sol_g_i: 0.0  d_i: 58.0  sol_taoi: 49.0  sol_deltai: 58.0  sol_deltai - sol_taoi: 9.0  sol_taoP: 49.0  sol_deltaP: 51.0  sol_deltaP - sol_taoP: 2.0  cl_i: 2288414.0  sol_c_i: 2288414.0  sol_gp_i: 0.0  total work: 2636440.0  wasted work: 1.3200603844578296
    i: 5.0  l_i: 4.0  p_i: 14.0  al_i: 26.0  sol_a_i: 26.0  sol_g_i: 0.0  d_i: 37.0  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: 2849691.0  sol_c_i: 2849691.0  sol_gp_i: 0.0  total work: 2900084.0  wasted work: 0.1911403255905691
    i: 6.0  l_i: 5.0  p_i: 14.0  al_i: 64.0  sol_a_i: 64.0  sol_g_i: 0.0  d_i: 81.0  sol_taoi: 64.0  sol_deltai: 81.0  sol_deltai - sol_taoi: 17.0  sol_taoP: 64.0  sol_deltaP: 70.0  sol_deltaP - sol_taoP: 6.0  cl_i: 4252831.0  sol_c_i: 4252831.0  sol_gp_i: 0.0  total work: 4350126.0  wasted work: 0.3690393105854865
    i: 7.0  l_i: 4.0  p_i: 18.0  al_i: 11.0  sol_a_i: 13.571428571428571  sol_g_i: 0.5142857142857142  d_i: 31.0  sol_taoi: 14.0  sol_deltai: 33.0  sol_deltai - sol_taoi: 19.0  sol_taoP: 14.0  sol_deltaP: 18.0  sol_deltaP - sol_taoP: 4.0  cl_i: 4977301.0  sol_c_i: 5272880.0  sol_gp_i: 0.18685487500821815  total work: 5404702.0  wasted work: 0.5
    i: 8.0  l_i: 6.0  p_i: 8.0  al_i: 13.0  sol_a_i: 17.0  sol_g_i: 0.5  d_i: 24.0  sol_taoi: 17.0  sol_deltai: 27.0  sol_deltai - sol_taoi: 10.0  sol_taoP: 17.0  sol_deltaP: 19.0  sol_deltaP - sol_taoP: 2.0  cl_i: 2608325.0  sol_c_i: 2768262.0  sol_gp_i: 0.15166000364127383  total work: 2900084.0  wasted work: 0.5
    i: 9.0  l_i: 7.0  p_i: 7.0  al_i: 56.0  sol_a_i: 63.0  sol_g_i: 0.7  d_i: 77.0  sol_taoi: 63.0  sol_deltai: 80.0  sol_deltai - sol_taoi: 17.0  sol_taoP: 63.0  sol_deltaP: 70.0  sol_deltaP - sol_taoP: 7.0  cl_i: 4286932.0  sol_c_i: 5266428.619047619  sol_gp_i: 0.9288060974719878  total work: 5272880.0  wasted work: 0.024470046549060844
    i: 10.0  l_i: 6.0  p_i: 8.0  al_i: 24.0  sol_a_i: 27.0  sol_g_i: 0.42857142857142855  d_i: 42.0  sol_taoi: 28.0  sol_deltai: 40.0  sol_deltai - sol_taoi: 12.0  sol_taoP: 28.0  sol_deltaP: 31.0  sol_deltaP - sol_taoP: 3.0  cl_i: 2975437.0  sol_c_i: 4218304.0  sol_gp_i: 0.6734552220851935  total work: 4218304.0  wasted work: 0.0
    i: 11.0  l_i: 6.0  p_i: 23.0  al_i: 17.0  sol_a_i: 23.0  sol_g_i: 0.8571428571428571  d_i: 42.0  sol_taoi: 23.0  sol_deltai: 41.0  sol_deltai - sol_taoi: 18.0  sol_taoP: 23.0  sol_deltaP: 29.0  sol_deltaP - sol_taoP: 6.0  cl_i: 4493397.0  sol_c_i: 5020685.0  sol_gp_i: 1.0  total work: 5141058.0  wasted work: 0.4565740164767641
    i: 12.0  l_i: 5.0  p_i: 23.0  al_i: 9.0  sol_a_i: 12.6  sol_g_i: 0.6  d_i: 21.0  sol_taoi: 13.0  sol_deltai: 21.0  sol_deltai - sol_taoi: 8.0  sol_taoP: 13.0  sol_deltaP: 17.0  sol_deltaP - sol_taoP: 4.0  cl_i: 2031082.0  sol_c_i: 2900084.0  sol_gp_i: 0.6592238017933274  total work: 2900084.0  wasted work: 0.0
Time: 656.000000
```