```
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=3841

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_BDC.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_5.xlsx  instance by BDC

        Master protblem status =  2 , is Optimal
        sol_MP_obj =  440.0
The initial lb =  -inf        ub =  inf

The current iteration cnt =  0
        Dual problem status =  2 , is Optimal
        Add optimal cut
        Master protblem status =  2 , is Optimal
        Deterministic Sub problem Status=  2 , is Optimal
        lb =  466.3734496859112                 ub =  466.3734496859112
        MPObj =  466.3734496859112      MPObj_Remove_Hua =  461.0       DualSPObj =  5.373449685911234        Hua =  5.3734496859112335       Deterministic_SP_SPObj =  343.0

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:  0.0  aI_i:  5.0        sol_a_i:  5.0    sol_g_i:  0.0    d_i:  15.0    sol_taoi:  5.0   sol_deltai:  12.0  sol_deltai - sol_taoi:  7.0    sol_taoP:  5.0    sol_deltaP:  7.0   sol_deltaP - sol_taoP:  2.0   cI_i:  1685347.0     sol_c_i:  1685347.0    sol_gp_i:  0.0  total work:  2109152.0    wasted work:  1.6074896451275205
    i:  1.0  l_i:  5.0   p_i:  11.0    aI_i:  2.0        sol_a_i:  2.0    sol_g_i:  0.0    d_i:  15.0    sol_taoi:  2.0   sol_deltai:  15.0  sol_deltai - sol_taoi:  13.0  sol_taoP:  2.0    sol_deltaP:  5.0   sol_deltaP - sol_taoP:  3.0   cI_i:  3325804.0     sol_c_i:  3325804.0    sol_gp_i:  0.0  total work:  4218304.0    wasted work:  3.3852467721624615
    i:  2.0  l_i:  6.0   p_i:  0.0   aI_i:  14.0       sol_a_i:  14.0   sol_g_i:  0.0    d_i:  36.0    sol_taoi:  14.0    sol_deltai:  37.0  sol_deltai - sol_taoi:  23.0  sol_taoP:  14.0    sol_deltaP:  22.0    sol_deltaP - sol_taoP:  8.0   cI_i:  6030336.0     sol_c_i:  6030336.0    sol_gp_i:  0.0  total work:  6063812.0    wasted work:  0.12697425315956365
    i:  3.0  l_i:  5.0   p_i:  6.0   aI_i:  14.0       sol_a_i:  14.0   sol_g_i:  0.0    d_i:  25.0    sol_taoi:  14.0    sol_deltai:  21.0  sol_deltai - sol_taoi:  7.0    sol_taoP:  14.0    sol_deltaP:  16.0    sol_deltaP - sol_taoP:  2.0   cI_i:  1637737.0     sol_c_i:  1637737.0    sol_gp_i:  0.0  total work:  1845508.0    wasted work:  0.7880740695786743
    i:  4.0  l_i:  5.0   p_i:  16.0    aI_i:  20.0       sol_a_i:  20.0   sol_g_i:  0.0    d_i:  44.0    sol_taoi:  20.0    sol_deltai:  41.0  sol_deltai - sol_taoi:  21.0  sol_taoP:  20.0   sol_deltaP:  25.0    sol_deltaP - sol_taoP:  5.0   cI_i:  5351141.0     sol_c_i:  5351141.0    sol_gp_i:  0.0  total work:  5800168.0    wasted work:  1.7031565292591524
    i:  5.0  l_i:  7.0   p_i:  6.0   aI_i:  24.0       sol_a_i:  24.0   sol_g_i:  0.0    d_i:  30.0    sol_taoi:  24.0    sol_deltai:  29.0  sol_deltai - sol_taoi:  5.0    sol_taoP:  24.0    sol_deltaP:  26.0    sol_deltaP - sol_taoP:  2.0   cI_i:  1201427.0     sol_c_i:  1201427.0    sol_gp_i:  0.0  total work:  1450042.0    wasted work:  0.9429950994522918
    i:  6.0  l_i:  6.0   p_i:  10.0    aI_i:  29.0       sol_a_i:  33.0   sol_g_i:  0.8    d_i:  48.0    sol_taoi:  33.0    sol_deltai:  51.0  sol_deltai - sol_taoi:  18.0  sol_taoP:  33.0   sol_deltaP:  39.0    sol_deltaP - sol_taoP:  6.0   cI_i:  4500077.0     sol_c_i:  5765560.688853154    sol_gp_i:  0.7999952517113695    total work:  5800168.0    wasted work:  0.13126530907908407
    i:  7.0  l_i:  5.0   p_i:  5.0   aI_i:  34.0       sol_a_i:  37.2   sol_g_i:  0.4    d_i:  63.0    sol_taoi:  38.0    sol_deltai:  67.0  sol_deltai - sol_taoi:  29.0  sol_taoP:  38.0    sol_deltaP:  46.0    sol_deltaP - sol_taoP:  8.0   cI_i:  7630244.0     sol_c_i:  7630344.59016937   sol_gp_i:  9.53844667153092e-05     total work:  7645676.0    wasted work:  0.05815193909449798
    i:  8.0  l_i:  5.0   p_i:  21.0    aI_i:  34.0       sol_a_i:  34.0   sol_g_i:  0.0    d_i:  43.0    sol_taoi:  34.0    sol_deltai:  41.0  sol_deltai - sol_taoi:  7.0    sol_taoP:  34.0   sol_deltaP:  36.0    sol_deltaP - sol_taoP:  2.0   cI_i:  1705681.0     sol_c_i:  2338331.3051585555   sol_gp_i:  0.5999096368194947    total work:  2900084.0    wasted work:  2.130724366347971
    i:  9.0  l_i:  5.0   p_i:  0.0   aI_i:  47.0       sol_a_i:  54.0   sol_g_i:  1.0    d_i:  66.0    sol_taoi:  54.0    sol_deltai:  74.0  sol_deltai - sol_taoi:  20.0  sol_taoP:  54.0    sol_deltaP:  61.0    sol_deltaP - sol_taoP:  7.0   cI_i:  5229391.0     sol_c_i:  7074895.918302428    sol_gp_i:  0.9999983301629838    total work:  7382032.0    wasted work:  1.1649651867577946
    i:  10.0   l_i:  6.0   p_i:  10.0    aI_i:  50.0       sol_a_i:  55.6   sol_g_i:  0.8    d_i:  68.0    sol_taoi:  56.0    sol_deltai:  73.0  sol_deltai - sol_taoi:  17.0   sol_taoP:  56.0    sol_deltaP:  60.0    sol_deltaP - sol_taoP:  4.0   cI_i:  4322611.0     sol_c_i:  4638984.536536674    sol_gp_i:  0.6000013968394384    total work:  5272880.0    wasted work:  2.404361424736865

Optimal objective =  804.0

Time: 143.000000
```