```
this paper\Scripts\python.exe" "D:\Python\Pycharm\setroute\PyCharm Community Edition 2021.2.3\plugins\python-ce\helpers\pydev\pydevconsole.py" --mode=
     client --port=55255
 3
     import sys; print('Python %s on %s' % (sys.version, sys.platform))
     6
    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
 8
     this paper')
10 Backend TkAgg is interactive backend. Turning interactive mode on.
     Waiting 5s.....
12
13 Optimize the ./R 6 1.xlsx instance by BDC
14
15
            Master protblem status = 2, is Optimal
            sol_MP_obj = 203.0
16
    The initial lb = -inf
17
                                      ub = inf
19
     The current iteration cnt = 0
            Dual problem status = 2, is Optimal
20
21
            Add optimal cut
            Master protblem status = 2, is Optimal
            Deterministic Sub problem Status= 2, is Optimal
23
                                                                    ub = 214.30965810012484
            1b = 214.30965810012484
24
25
            MPObj = 214.3096581001248 MPObj_Remove_Hua = 211.0 DualSPObj = 3.3096581001248246 Hua = 3.309658100124824
     Deterministic_SP_SPObj = 123.0
26
27
     ub - lb = 0.0
28
29 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: 28.0 al_i: 2.0 sol_a_i: 2.0 sol_g_i: 0.0 d_i: 11.0 sol_taoi: 2.0 sol_deltai: 11.0 sol_deltai 11.0 sol_deltai - sol_taoi: 9.0 sol_taoP: 2
30
            sol_deltaP: 4.0 sol_deltaP - sol_taoP: 2.0 cl_i: 2292581.0 sol_e_i: 2292581.0 sol_gp_i: 0.0 total work: 2636440.0 wasted work: 1.
31
        i: 1.0 l_i: 6.0 p_i: 22.0 al_i: 7.0
                                                                   sol_a_i: 7.0 sol_g_i: 0.0 d_i: 27.0 sol_taoi: 7.0 sol_deltai: 27.0 sol_deltai - sol_taoi: 20.0 sol_taoP: 7
      .0 sol_deltaP: 11.0 sol_deltaP - sol_taoP: 4.0 cl_i: 5270879.0 sol_c_i: 5270879.0 sol_gp_i: 0.0 total work: 6327456.0 wasted work: 4.
32
        i: 2.0 1 i: 7.0 p i: 15.0 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
            sol_deltaP: 6.0 sol_deltaP - sol_taoP: 4.0 cl_i: 3408100.0 sol_c_i: 3408100.0 sol_gp_i: 0.0 total work: 4218304.0 wasted work: 3.
     0730985723172157
       i: 3.0 1_i: 4.0 p_i: 11.0 al_i: 22.0 sol_a_i: 22.0 sol_g_i: 0.0 d_i: 50.0 sol_taoi: 22.0 sol_deltai: 50.0 sol_deltai: 50.0 sol_deltai - sol_taoi: 28.0 sol_deltaP - sol_taoi: 27.0 sol_deltaP - sol_taoi: 28.0 sol_deltaP - sol_ta
                                                                   sol a i: 22.0 sol g i: 0.0 d i: 50.0 sol taoi: 22.0 sol deltai: 50.0 sol deltai - sol taoi: 28.0 sol taoP
     058340034288662
         i: 4.0 1_i: 5.0 p_i: 6.0 aI_i: 23.0
                                                              sol_a_i: 27.0 sol_g_i: 0.8 d_i: 62.0 sol_taoi: 27.0 sol_deltai: 46.0 sol_deltai - sol_taoi: 19.0 sol_taoP:
              sol_deltaP: 33.0 sol_deltaP - sol_taoP: 6.0 cl_i: 4857867.0 sol_c i: 6123358.2 sol_gp_i: 0.8 total work: 6327456.0 wasted work: 0.
      774141645552335
                                                                     sol a i: 33.2 sol g i: 0.4 d i: 70.0 sol taoi: 34.0 sol deltai: 62.0 sol deltai - sol taoi: 28.0 sol taoP
         i: 5.0 1 i: 6.0 p i: -0.0 aI i: 30.0
       34.0 sol_deltaP: 42.0 sol_deltaP - sol_taoP: 8.0 cl_i: 7318466.0 sol_c_i: 7634838.8 sol_gp_i: 0.4 total work: 7645676.0 wasted work: 0.
     04110543004961306
36
37
     Optimal objective = 334.0
38
39
     Time: 36.000000
40
41
42
43
```