```
unknown
         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=31453
   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
        Optimize the ./R_5_1.xlsx instance by CCG
 13
 14
 15
                     Master protblem status = 2, is Optimal and MP obj = 192.0
        The initial lb = -inf
                                                                  ub = inf
 16
 17
          The current iteration cnt = 0
 19
                     The SP model was solved Optimal 2 and SPObj = 192.0
20
                     Master protblem status = 2, is Optimal
21
                     Deterministic Sub problem Status= 2, is Optimal
                                                                           ub = 316.0
23
                      MPObj = 316.0 MP_delete_Hua_Obj = 201.0
                                                                                                                                                  Hua = 115.0
                                                                                                                                                                                          SPObi = 192.0
                                                                                                                                                                                                                                  Deter SP Obj = 115.0
 24
 25
         ub - 1b = 0.0
26
27 Iteration cycle stopped by termination criterion 1: Because ub - lb \le eps, the iteration stop, and cnt = 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
28
                 i: 0.0 1_i: 6.0 p_i: 8.0 aI_i: 7.0
                                                             sol_deltaP - sol_taoP: 4.0 cI_i: 5270879.0 sol_c_i: 5270879.0 sol_gp_i: 0.0 total work: 5931990.0 wasted work: 2.
          5075897801580918
                                                                                                                      sol\_a\_i: 2.0 \quad sol\_g\_i: 0.0 \quad d\_i: 15.0 \quad sol\_taoi: 2.0 \quad sol\_deltai: 15.0 \quad sol\_deltai - sol\_taoi: 13.0 \quad sol\_taoP: 2.0 \quad \quad sol\_taoP
 29
                i: 1.0 1_i: 7.0 p_i: 14.0 aI_i: 2.0
           .0 sol deltaP: 5.0 sol deltaP - sol taoP: 3.0 cl i: 3408100.0 sol c i: 3408100.0 sol gp i: 0.0 total work: 3559194.0 wasted work: 0.
          5730985723172156
              i: 2.0 l_i: 4.0 p_i: 14.0 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 so
                                                                                                                      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
          05834003428866198
         i: 3.0 l_i: 5.0 p_i: 18.0 al_i: 23.0 sol_a_i: 25.25 sol_g_i: 0.45 d_i: 62.0 sol_taoi: 26.0 sol_deltai: 45.0 sol_deltai - sol_taoi: 19.0 sol_taoP: 26.0 sol_deltaP: 30.0 sol_deltaP - sol_taoP: 4.0 cl_i: 4857867.0 sol_c_i: 5310751.800000001 sol_gp_i: 0.286298189983464 total work
 31
          : 5404702.0 wasted work: 0.3563525056515576
                                                                                                                  sol a i: 36.0 sol g i: 0.75 d i: 70.0 sol taoi: 36.0 sol deltai: 64.0 sol deltai - sol taoi: 28.0 sol taoP
                i: 4.0 1_i: 6.0 p_i: 23.0 aI_i: 30.0
          : 36.0 sol_deltaP: 42.0 sol_deltaP - sol_taoP: 6.0 cl_i: 7318466.0 sol_c_i: 8041142.0 sol_gp_i: 0.9137018100165359 total work: 8172964.0
          wasted work: 0.5
         Time: 56.000000
 34
 35
36
 37
```