```
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=58018
 2
 3
     import sys; print('Python %s on %s' % (sys.version, sys.platform))
     sys.path.extend(['E:\\1 ] _ _ \\3 | 0 _ _ | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | 0 | \\1 | 0 | 0 | \\1 | 0 | 0 | \\1 | 0 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\1 | 0 | \\\  | 0 | \\1 | 0 | \\\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | \\  | 0 | 
      6
     PyDev console: starting.
 8 Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32
     main RO BDC.py', wdir='E:/1 0000/3 00000/1 0000000/1 0000000/1 0000000/1 LW 00001/4 0000/3 python code/9 Code for
10 Backend TkAgg is interactive backend. Turning interactive mode on.
11
     Waiting 5s.....
13 Optimize the ./R 15 4.xlsx instance by BDC
14
15
             Master protblem status = 2, is Optimal
16
             sol MP obj = 807.0
     The initial lb = -inf
                                        ub = inf
17
18
19
      The current iteration cnt = 0
20
         Optimization was stopped with status 9
             Dual problem status = 9
21
22
             Add optimal cut
23
             Master protblem status = 2, is Optimal
             Deterministic Sub problem Status= 2, is Optimal
24
                                                                     ub = 850.414802754711
25
             1b = 850.414802754711
26
             MPObj = 850.414802754711
                                                              MPObj_Remove_Hua = 839.0
                                                                                                               DualSPObj = 11.414802754710964 Hua = 11.414802754710959
     Deterministic SP SPObj = 647.0
27
28
     ub - lb = 0.0
29
30 Iteration cycle stopped by termination criterion 1: Because ub - lb \le eps, the iteration stop, and cnt = 0
          i: 0.0 l_i: 6.0 p_i: 4.0 al_i: 60.0 sol_a_i: 60.0 sol_g_i: 0.0 d_i: 75.0 sol_taoi: 60.0 sol_deltai: 75.0 sol_deltai: 75.0 sol_deltai: 75.0 sol_taoi: 15.0 sol_taoP:
31
                sol_deltaP: 65.0 sol_deltaP - sol_taoP: 5.0 cI_i: 3945173.0 sol_c_i: 3945173.0 sol_gp_i: 0.0 total work: 3954660.0 wasted work: 0.
      035984130114851846
        i: 1.0 l_i: 4.0 p_i: 17.0 al_i: 22.0 sol_a_i: 22.0 sol_g_i: 0.0 d_i: 36.0 sol_taoi: 22.0 sol_deltai: 36.0 so
                                                                         sol_a_i: 22.0 sol_g_i: 0.0 d_i: 36.0 sol_taoi: 22.0 sol_deltai: 36.0 sol_deltai - sol_taoi: 14.0 sol_taoP
32
        i: 2.0 1_i: 7.0 p_i: 14.0 aI_i: 65.0 sol_a_i: 65.0 sol_g_i: 0.0 d_i: 83.0 sol_taoi: 65.0 sol_deltai: 87.0 sol_deltai - sol_taoi: 22.0 sol_deltai - sol_taoi: 22.0 sol_deltai - sol_taoi: 22.0 sol_deltai - sol_taoi: 5705555.0 sol_g_i: 0.0 total work: 5800168.0 wasted work: 0.
33
                                                                       sol a i: 65.0 sol g i: 0.0 d i: 83.0 sol taoi: 65.0 sol deltai: 87.0 sol deltai - sol taoi: 22.0 sol taoP
      35886650179787893
                                                                         sol a i: 42.0 sol g i: 0.0 d i: 62.0 sol taoi: 42.0 sol deltai: 62.0 sol deltai - sol taoi: 20.0 sol taoP
          i: 3.0 1_i: 6.0 p_i: 17.0 aI_i: 42.0
        42.0 sol_deltaP: 49.0 sol_deltaP - sol_taoP: 7.0 cI_i: 5211519.0 sol_c_i: 5211519.0 sol_gp_i: 0.0 total work: 5272880.0 wasted work: 0.
      23274187920074038
35
          i: 4.0 1_i: 7.0 p_i: 5.0 aI_i: 25.0
                                                                   sol_a_i: 25.0 sol_g_i: 0.0 d_i: 45.0 sol_taoi: 25.0 sol_deltai: 45.0 sol_deltai - sol_taoi: 20.0 sol_taoP:
                sol_deltaP: 31.0 sol_deltaP - sol_taoP: 6.0 eL_i: 5182534.0 sol_e_i: 5182534.0 sol_gp_i: 0.0 total work: 5536524.0 wasted work: 1.
      3426817981823975
         i: 5.0 1_i: 6.0 p_i: 28.0 aI_i: 8.0
                                                                          sol_a_i: 8.0 sol_g_i: 0.0 d_i: 30.0 sol_taoi: 8.0 sol_deltai: 30.0 sol_deltai - sol_taoi: 22.0 sol_taoP: 8
      .0 sol_deltaP: 13.0 sol_deltaP - sol_taoP: 5.0 cl_i: 5701160.0 sol_c_i: 5701160.0 sol_gp_i: 0.0 total work: 6195634.0 wasted work: 1.
      875536708591889
          i: 6.0 1_i: 4.0 p_i: 10.0 aI_i: 48.0
                                                                          sol_a_i: 48.0 sol_g_i: 0.0 d_i: 71.0 sol_taoi: 48.0 sol_deltai: 71.0 sol_deltai - sol_taoi: 23.0 sol_taoP
37
      : 48.0 sol_deltaP: 55.0 sol_deltaP - sol_taoP: 7.0 cl_i: 5944153.0 sol_c_i: 5944153.0 sol_gp_i: 0.0 total work: 6063812.0 wasted work: 0.
      45386581905903417
         i: 7.0 1_i: 5.0 p_i: 0.0 aI_i: 48.0
                                                                   sol a i: 48.0 sol g i: 0.0 d i: 57.0 sol taoi: 48.0 sol deltai: 57.0 sol deltai - sol taoi: 9.0 sol taoP:
38
                sol_deltaP: 51.0 sol_deltaP - sol_taoP: 3.0 cl_i: 2323556.0 sol_c i: 2323556.0 sol_gp_i: 0.0 total work: 2372796.0 wasted work: 0.
      48.0
      18676700399022925
          i: 8.0 1_i: 7.0 p_i: 21.0 aI_i: 13.0
                                                                         sol a i: 17.0 sol g i: 0.8 d i: 33.0 sol taoi: 17.0 sol deltai: 35.0 sol deltai - sol taoi: 18.0 sol taoP
       17.0 sol_deltaP: 20.0 sol_deltaP - sol_taoP: 3.0 cI_i: 4681868.0 sol_c_i: 5947359.2 sol_gp_i: 0.8 total work: 6063812.0 wasted work: 0.
      4417047230356079
                                                                         sol a i: 29.0 sol g i: 0.0 d i: 49.0 sol taoi: 29.0 sol deltai: 42.0 sol deltai - sol taoi: 13.0 sol taoP
40
        i: 9.0 1 i: 5.0 p i: 12.0 aI i: 29.0
        29.0 sol_deltaP: 32.0 sol_deltaP - sol_taoP: 3.0 cl_i: 3341254.0 sol_c_i: 3341254.0 sol_gp_i: 0.0 total work: 3427372.0 wasted work: 0.
      32664502131662393
          sol_a_i: 67.0 sol_g_i: 1.0 d_i: 83.0 sol_taoi: 67.0 sol_deltai: 85.0 sol_deltai - sol_taoi: 18.0 sol_taoP
        67.0 sol deltaP: 72.0 sol deltaP - sol taoP: 5.0 cI i: 4537928.0 sol c i: 4748843.2 sol gp i: 0.2 total work: 5009236.0 wasted work: 0.
      9876682192653723
42
          i: 11.0    1_i: 4.0    p_i: 13.0    aI_i: 0.0
                                                                             sol_a_i: 4.2 sol_g_i: 0.6 d_i: 24.0 sol_taoi: 5.0 sol_deltai: 25.0 sol_deltai - sol_taoi: 20.0 sol_taoP
        5.0 sol_deltaP: 15.0 sol_deltaP - sol_taoP: 10.0 cl_i: 5205411.0 sol_c_i: 7050919.0 sol_gp_i: 1.0 total work: 7250210.0 wasted work: 0.
      7559094840011531
          sol_a_i: 20.2 sol_g_i: 0.6 d_i: 40.0 sol_taoi: 21.0 sol_deltai: 44.0 sol_deltai - sol_taoi: 23.0 sol_taoP
        21.0 sol_deltaP: 33.0 sol_deltaP - sol_taoP: 12.0 cl_i: 5945203.0 sol_e_i: 5945203.0 sol_gp_i: 0.0 total work: 6063812.0 wasted work: 0.
      44988317579766657
44
         i: 13.0 1_i: 6.0 p_i: 23.0 aI_i: 50.0
                                                                          sol_a_i: 53.6 sol_g_i: 0.6 d_i: 74.0 sol_taoi: 54.0 sol_deltai: 74.0 sol_deltai - sol_taoi: 20.0
      sol taoP: 54.0 sol deltaP: 62.0 sol deltaP - sol taoP: 8.0 cl i: 5085271.0 sol c i: 6403491.0 sol gp i: 1.0 total work: 6722922.0 wasted work
      : 1.2115997329732517
          sol_a_i: 43.6 sol_g_i: 0.4 d_i: 74.0 sol_taoi: 44.0 sol_deltai: 71.0 sol_deltai - sol_taoi: 27.0
      sol_taoP: 44.0 sol_deltaP: 55.0 sol_deltaP - sol_taoP: 11.0 cl_i: 6869927.0 sol_c_i: 8979079.0 sol_gp_i: 1.0 total work: 9227540.0 wasted
      work: 0.9424109784406245
46
47 Optimal objective = 1486.0
48
     Time: 1766.000000
49
```

1	nknown	
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	52 53	
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