```
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=53574
   3
          import sys; print('Python %s on %s' % (sys.version, sys.platform))
          4
  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
         >>> runfile('E:/1 = 1 = 1/3 = 0 = 0/1 = 0 = 0 = 0/1 = 0 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 0 = 0/1 = 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 = 0/1 = 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 = 0/1 = 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 = 
           Code for this paper')
10 Backend TkAgg is interactive backend. Turning interactive mode on.
          Waiting 5s.....
12
13 Optimize the ./R 10 1.xlsx instance by ECCG for deterministic model
14
15
          Set parameter MIPGap to value 0.01
                      Master protblem status = 2, is Optimal and MP obj = 428.0
16
                                                                      ub = inf
17
         The initial lb = -inf
18
19
          The current iteration cnt = 0
                       The SP model was solved Optimal 2 and SPObj = 428.0
20
21
                       Deterministic Sub problem Status= 2, is Optimal
                       Master protblem status = 2, is Optimal
23
                       1b = 740.0
                                                                                    ub = 740.0
                                                                                                                                                                                                           SPObj = 428.0
                        MPObj = 740.0 MP\_delete\_Hua\_Obj = 428.0
24
                                                                                                                                                          Hua = 312.0
                                                                                                                                                                                                                                                     Deter_SP_Obj = 312.0
25
26 \text{ ub - } 1b = 0.0
27
28 Iteration cycle stopped by termination criterion 1: Because ub - lb \leq eps, the iteration stop, and cnt = 0
           i: 0.0 1_i: 6.0 p_i: 13.0 al_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_d
29
          8852467721624615
                 i: 1.0 l_i: 6.0 p_i: 0.0 al_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:
30
           14.0 sol deltaP: 20.0 sol_deltaP - sol_taoP: 6.0 cl_i: 6030336.0 sol_c_i: 6030336.0 sol_gp_i: 0.0 total work: 6063812.0 wasted work: 0.
           12697425315956365
31
              i: 2.0 1_i: 7.0 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 cl_i: 1637737.0 sol_c_i: 1637737.0 sol_gp_i: 0.0 total work: 1845508.0 wasted work: 0.
          7880740695786743
                                                                                                                             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
                 i: 3.0 1_i: 5.0 p_i: 13.0 aI_i: 20.0
32
          : 20.0 sol deltaP: 25.0 sol deltaP - sol taoP: 5.0 cl i: 5351141.0 sol c i: 5351141.0 sol gp i: 0.0 total work: 6327456.0 wasted work: 3.
          7031565292591524
                                                                                                                             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
33
               i: 4.0 1 i: 7.0 p i: 18.0 aI i: 24.0
           : 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: 1318220.0 wasted work: 0.
          4429950994522917
                i: 5.0 1_i: 6.0 p_i: 6.0 aI_i: 29.0
                                                                                                                         sol a i: 29.0 sol g i: 0.0 d i: 48.0 sol taoi: 29.0 sol deltai: 47.0 sol deltai - sol taoi: 18.0 sol taoP:
          29.0 sol_deltaP: 34.0 sol_deltaP - sol_taoP: 5.0 cl_i: 4500077.0 sol_c_i: 4500077.0 sol_gp_i: 0.0 total work: 4613770.0 wasted work: 0.
           4312368193473017
              i: 6.0 1_i: 6.0 p_i: 18.0 aI i: 34.0
                                                                                                                               sol_a_i: 34.0 sol_g_i: 0.0 d_i: 63.0 sol_taoi: 34.0 sol_deltai: 63.0 sol_deltai - sol_taoi: 29.0 sol_taoP
              34.0 sol_deltaP: 40.0 sol_deltaP - sol_taoP: 6.0 cl_i: 7630244.0 sol_c_i: 7630244.0 sol_gp_i: 0.0 total work: 7645676.0 wasted work: 0.
          05853347696135698
                  i: 7.0 1_i: 6.0 p_i: 24.0 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 cl i: 1705681.0 sol c i: 1705681.0 sol gp i: 0.0 total work: 1845508.0 wasted work: 0.
          5303629136259501
                 i: 8.0 1_{\text{i}}: 6.0 p_{\text{i}}: 12.0 aI_{\text{i}}: 47.0 sol_{\text{a}}: 47.0 sol_{\text{g}}: 0.0 d_{\text{i}}: 66.0 sol_{\text{taoi}}: 47.0 sol_{\text{deltai}}: 67.0 sol_{\text{deltai}
37
              47.0 sol_deltaP: 51.0 sol_deltaP - sol_taoP: 4.0 cl_i: 5229391.0 sol_c_i: 5229391.0 sol_gp_i: 0.0 total work: 6063812.0 wasted work: 3.
          1649534978986815
          i: 9.0\ 1_{\text{i}}: 6.0\ p_{\text{i}}: 0.0\ al_{\text{i}}: 50.0\ sol_{\text{a}}: 50.0\ sol_{\text{g}}: 0.0\ d_{\text{i}}: 68.0\ sol_{\text{taoi}}: 50.0\ sol_{\text{deltai}}: 67.0\ sol
                                                                                                                     sol_a_i: 50.0 sol_g_i: 0.0 d_i: 68.0 sol_taoi: 50.0 sol_deltai: 67.0 sol_deltai - sol_taoi: 17.0 sol_taoP:
          6043642184157425
39
          Time: 234.000000
40
41
42
43
```