```
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=53307
  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
      >>> 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 = 0/1 = 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 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/
        Code for this paper')
10 Backend TkAgg is interactive backend. Turning interactive mode on.
       Waiting 5s.....
12
13 Optimize the ./R 8 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 = 287.0
16
                                                  ub = inf
17
       The initial lb = -inf
19
       The current iteration cnt = 0
                The SP model was solved Optimal 2 and SPObj = 287.0
20
21
                Deterministic Sub problem Status= 2, is Optimal
                Master protblem status = 2, is Optimal
23
                1b = 477.0
                                                           ub = 477.0
                                                                                                                                                SPObj = 287.0
                 MPObj = 477.0 MP\_delete\_Hua\_Obj = 287.0
24
                                                                                                                 Hua = 190.0
                                                                                                                                                                               Deter_SP_Obj = 190.0
25
26 \text{ ub - } 1b = 0.0
27
28 Iteration cycle stopped by termination criterion 1: Because ub - 1b \le eps, the iteration stop, and eps cm = 0
            i: 0.0 1_i: 6.0 p_i: 7.0 al_i: 1.0 sol_a_i: 1.0 sol_g_i: 0.0 d_i: 12.0 sol_taoi: 1.0 sol_deltai: 12.0 sol_de
29
            sol deltaP: 5.0 sol deltaP - sol taoP: 4.0 cl i: 2838079.0 sol c i: 2838079.0 sol gp i: 0.0 total work: 2900084.0 wasted work: 0.
       2351845670677125
30
            i: 1.0 1_i: 7.0 p_i: 0.0 aI_i: 3.0
                                                                                       sol_a_i: 3.0 sol_g_i: 0.0 d_i: 24.0 sol_taoi: 3.0 sol_deltai: 23.0 sol_deltai - sol_taoi: 20.0 sol_taoP: 3.0
            sol deltaP: 10.0 sol deltaP - sol taoP: 7.0 cl i: 5225121.0 sol c i: 5225121.0 sol gp i: 0.0 total work: 5272880.0 wasted work: 0.
       1811495804949098
            i: 2.0 1_i: 6.0 p_i: 13.0 aI_i: 13.0
31
                                                                                           sol_a_i: 13.0 sol_g_i: 0.0 d_i: 40.0 sol_taoi: 13.0 sol_deltai: 37.0 sol_deltai - sol_taoi: 24.0 sol_taoP
        : 13.0 sol_deltaP: 18.0 sol_deltaP - sol_taoP: 5.0 cl_i: 6204790.0 sol_c_i: 6204790.0 sol_gp_i: 0.0 total work: 6591100.0 wasted work: 1.
       4652713507608746
            i: 3.0 1_i: 5.0 p_i: 19.0 aI_i: 14.0
                                                                                          sol_a_i: 14.0 sol_g_i: 0.0 d_i: 24.0 sol_taoi: 14.0 sol_deltai: 26.0 sol_deltai - sol_taoi: 12.0 sol_taoP
32
       : 14.0 sol deltaP: 17.0 sol deltaP - sol taoP: 3.0 cI i: 2990355.0 sol c i: 2990355.0 sol gp i: 0.0 total work: 3163728.0 wasted work: 0.
       6576026763362717
                                                                                    sol a i: 18.0 sol g i: 0.0 d i: 34.0 sol taoi: 18.0 sol deltai: 37.0 sol deltai - sol taoi: 19.0 sol taoP:
33
           i: 4.0 1_i: 6.0 p_i: 7.0 aI_i: 18.0
        18.0 sol_deltaP: 25.0 sol_deltaP - sol_taoP: 7.0 cI_i: 4876117.0
                                                                                                                                            sol_c_i: 4876117.0 sol_gp_i: 0.0 total work: 4877414.0 wasted work: 0.
       004919512676184552
           i: 5.0 1_i: 7.0 p_i: 0.0 aI_i: 24.0 sol_a_i: 24.0 sol_g_i: 0.0 d_i: 50.0 sol_taoi: 24.0 sol_deltai: 51.0 sol_deltai - sol_taoi: 27.0 sol_4.0 sol_deltaP - sol_taoP: 9.0 cI_i: 6856681.0 sol_c_i: 6856681.0 sol_gp_i: 0.0 total work: 7118388.0 wasted work: 0.
                                                                                       sol a i: 24.0 sol g i: 0.0 d i: 50.0 sol taoi: 24.0 sol deltai: 51.0 sol deltai - sol taoi: 27.0 sol taoP:
        9926529714311724
          i: 6.0 1_i: 5.0 p_i: 24.0 aI_i: 25.0
                                                                                        sol_a_i: 25.0 sol_g_i: 0.0 d_i: 43.0 sol_taoi: 25.0 sol_deltai: 39.0 sol_deltai - sol_taoi: 14.0 sol_taoP
          25.0 sol_deltaP: 29.0 sol_deltaP - sol_taoP: 4.0 cl_i: 3585255.0 sol_c_i: 3585255.0 sol_gp_i: 0.0 total work: 3691016.0 wasted work: 0.
       4011507942528561
            i: 7.0 1_i: 6.0 p_i: 7.0 aI_i: 48.0
                                                                                    sol_a_i: 48.0 sol_g_i: 0.0 d_i: 62.0 sol_taoi: 48.0 sol_deltai: 62.0 sol_deltai - sol_taoi: 14.0 sol_taoP:
                    sol deltaP: 53.0 sol deltaP - sol taoP: 5.0 cl i: 3514769.0 sol c i: 3514769.0 sol gp i: 0.0 total work: 3954660.0 wasted work: 1.
       668503739891672
       Time: 67.000000
37
38
39
40
41
```