```
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=53889
 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 = 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 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 0/1 = 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 13 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 = 465.0
16
                                  ub = inf
17
    The initial lb = -inf
19
    The current iteration cnt = 0
           The SP model was solved Optimal 2 and SPObj = 465.0
20
21
           Deterministic Sub problem Status= 2, is Optimal
           Master protblem status = 2, is Optimal
           1b = 819.0
23
                                        ub = 819.0
           MPObj = 819.0 MP\_delete\_Hua\_Obj = 465.0
                                                                                                   SPObj = 465.0
24
                                                                             Hua = 354.0
                                                                                                                        Deter_SP_Obj = 354.0
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: 5.0 p_i: 7.0 al_i: 1.0 sol_a_i: 1.0 sol_g_i: 0.0 d_i: 14.0 sol_taoi: 1.0 sol_deltai: 17.0 sol_deltai - sol_taoi: 16.0 sol_taop: 1.0
29
        sol deltaP: 5.0 sol deltaP - sol taoP: 4.0 cl i: 4045894.0 sol c i: 4045894.0 sol gp i: 0.0 total work: 4218304.0 wasted work: 0.
     6539500235165602\\
30
        i: 1.0 1_i: 6.0 p_i: 0.0 aI_i: 4.0
                                                           sol_a_i: 4.0 sol_g_i: 0.0 d_i: 15.0 sol_taoi: 4.0 sol_deltai: 13.0 sol_deltai - sol_taoi: 9.0 sol_taoP: 4.0
        sol deltaP: 7.0 sol deltaP - sol taoP: 3.0 cl i: 2245580.0 sol c i: 2245580.0 sol gp i: 0.0 total work: 2372796.0 wasted work: 0.
     4825294715601341
31
       i: 2.0 1_i: 5.0 p_i: 12.0 aI_i: 9.0
                                                              sol_a_i: 9.0 sol_g_i: 0.0 d_i: 16.0 sol_taoi: 9.0 sol_deltai: 15.0 sol_deltai - sol_taoi: 6.0 sol_taoP: 9
           sol_deltaP: 10.0 sol_deltaP - sol_taoP: 1.0 cI_i: 1402489.0 sol_c_i: 1402489.0 sol_gp_i: 0.0 total work: 1581864.0 wasted work: 0.
     6803682238169653
        i: 3.0 1_i: 6.0 p_i: 17.0 aI_i: 13.0
                                                            sol_a_i: 13.0 sol_g_i: 0.0 d_i: 18.0 sol_taoi: 13.0 sol_deltai: 17.0 sol_deltai - sol_taoi: 4.0 sol_taoP
32
     : 13.0 sol deltaP: 14.0 sol deltaP - sol taoP: 1.0 cI i: 1000000.0 sol c i: 1000000.0 sol gp i: 0.0 total work: 13 18220.0 wasted work: 1.
     2070064177451412
       i: 4.0 1_i: 7.0 p_i: 0.0 aI i: 15.0
                                                         sol a i: 15.0 sol g i: 0.0 d i: 35.0 sol taoi: 15.0 sol deltai: 36.0 sol deltai - sol taoi: 21.0 sol taoP:
33
     15.0 sol_deltaP: 21.0 sol_deltaP - sol_taoP: 6.0 cl_i: 5281421.0 sol_e_i: 5281421.0 sol_gp_i: 0.0 total work: 5800168.0 wasted work: 1.
     9676040418139613
        i: 5.0 1_i: 7.0 p_i: 24.0 aI_i: 19.0
                                                              sol a i: 19.0 sol g i: 0.0 d i: 35.0 sol taoi: 19.0 sol deltai: 36.0 sol deltai - sol taoi: 17.0 sol taoP
      19.0 sol_deltaP: 22.0 sol_deltaP - sol_taoP: 3.0 cI_i: 4386290.0 sol_c_i: 4386290.0 sol_gp_i: 0.0 total work: 4745592.0 wasted work: 1.
     3628301800913354
       i: 6.0 1_i: 7.0 p_i: 7.0 aI_i: 23.0
                                                          sol_a_i: 23.0 sol_g_i: 0.0 d_i: 39.0 sol_taoi: 23.0 sol_deltai: 39.0 sol_deltai - sol_taoi: 16.0 sol_taoP:
35
     23.0 sol_deltaP: 26.0 sol_deltaP - sol_taoP: 3.0 cl_i: 3981008.0 sol_c_i: 3981008.0 sol_gp_i: 0.0 total work: 4218304.0 wasted work: 0.
     900062205094749
        i: 7.0 1_i: 6.0 p_i: 14.0 aI_i: 28.0
                                                               sol_a_i: 28.0 sol_g_i: 0.0 d_i: 40.0 sol_taoi: 28.0 sol_deltai: 33.0 sol_deltai - sol_taoi: 5.0 sol_taoP
36
       28.0 sol deltaP: 29.0 sol deltaP - sol taoP: 1.0 cl i: 1080122.0 sol c i: 1080122.0 sol gp i: 0.0 total work: 1318220.0 wasted work: 0.
     9031041859477174
                                                            sol_a_i: 34.0 sol_g_i: 0.0 d_i: 59.0 sol_taoi: 34.0 sol_deltai: 52.0 sol_deltai - sol_taoi: 18.0 sol_taoP
37
        i: 8.0 1_i: 5.0 p_i: 19.0 aI_i: 34.0
       34.0 sol_deltaP: 38.0 sol_deltaP - sol_taoP: 4.0 cl_i: 4586182.0 sol_c_i: 4586182.0 sol_gp_i: 0.0 total work: 4613770.0 wasted work: 0.
     10464110694724704
       i: 9.0 l_i: 5.0 p_i: 14.0 al_i: 35.0 sol_a_i: 35.0 sol_g_i: 0.0 d_i: 55.0 sol_taoi: 35.0 sol_deltai: 42.0 sol_deltai: 42.0 sol_deltai: 42.0 sol_deltai: 7.0 sol_taoP 35.0 sol_deltaP: 37.0 sol_deltaP - sol_taoP: 2.0 cl_i: 1843576.0 sol_c_i: 1843576.0 sol_gp_i: 0.0 total work: 2504618.0 wasted work: 2.
39
        i: 10.0 1_i: 5.0 p_i: 0.0 aI_i: 42.0
                                                            sol a i: 42.0 sol g i: 0.0 d i: 63.0 sol taoi: 42.0 sol deltai: 54.0 sol deltai - sol taoi: 12.0 sol taoP
       42.0 sol_deltaP: 45.0 sol_deltaP - sol_taoP: 3.0 cl_i: 3159187.0 sol_c_i: 3159187.0 sol_gp_i: 0.0 total work: 3163728.0 wasted work: 0.
     017223983857019315
        i: 11.0 1 i: 5.0 p i: 5.0 aI i: 43.0
                                                             sol a i: 43.0 sol g i: 0.0 d i: 62.0 sol taoi: 43.0 sol deltai: 49.0 sol deltai - sol taoi: 6.0 sol taoP
       43.0 sol_deltaP: 47.0 sol_deltaP - sol_taoP: 4.0 cl_i: 1570504.0 sol_c_i: 1570504.0 sol_gp_i: 0.0 total work: 2109152.0 wasted work: 2.
     043088407094415
        i: 12.0    1_i: 5.0    p_i: 5.0    aI i: 50.0
                                                            sol_a_i: 50.0 sol_g_i: 0.0 d_i: 70.0 sol_taoi: 50.0 sol_deltai: 62.0 sol_deltai - sol_taoi: 12.0 sol_taoP
       50.0 sol_deltaP: 53.0 sol_deltaP - sol_taoP: 3.0 cl_i: 2975335.0 sol_c_i: 2975335.0 sol_gp_i: 0.0 total work: 3163728.0 wasted work: 0.
     7145734399417396
    Time: 206.000000
43
44
45
46
```