```
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=33419
  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_5_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 = 192.0
 16
                                         ub = inf
 17
      The initial lb = -inf
 19
      The current iteration cnt = 0
              The SP model was solved Optimal 2 and SPObj = 192.0
20
21
              Deterministic Sub problem Status= 2, is Optimal
              Master protblem status = 2, is Optimal
23
             1b = 300.0
                                                ub = 300.0
              MPObj = 300.0 MP\_delete\_Hua\_Obj = 192.0
                                                                                                                   SPObj = 192.0
 24
                                                                                          Hua = 108.0
                                                                                                                                             Deter_SP_Obj = 108.0
 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 l_i: 6.0 p_i: 4.0 al_i: 7.0 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
 29
                                    sol deltaP - sol taoP: 5.0 cl i: 5270879.0 sol c i: 5270879.0 sol gp i: 0.0 total work: 5272880.0 wasted work: 0.
           sol deltaP: 12.0
       007589780158091973
30
         i: 1.0 1_i: 7.0 p_i: 10.0 aI_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_deltai - sol_taoi: 13.0 sol_taoP: 2
       .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: 3822838.0 wasted work: 1.
       5730985723172157
 31
         i: 2.0 1_i: 4.0 p_i: 0.0 aI_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 sol_deltai - sol_taoi: 28.0 sol_taoP:
       22.0 sol_deltaP: 29.0 sol_deltaP - sol_taoP: 7.0 cl_i: 7366651.0 sol_c_i: 7366651.0 sol_gp_i: 0.0 total work: 7382032.0 wasted work: 0.
       05834003428866198
           i: 3.0 \ 1_i: 5.0 \ p_i: 17.0 \ aI_i: 23.0
                                                                         sol_a_i: 23.0 sol_g_i: 0.0 d_i: 62.0 sol_taoi: 23.0 sol_deltai: 42.0 sol_deltai - sol_taoi: 19.0 sol_taoP
       : 23.0 sol_deltaP: 27.0 sol_deltaP - sol_taoP: 4.0 cl_i: 4857867.0 sol_c_i: 4857867.0 sol_gp_i: 0.0 total work: 5272880.0 wasted work: 1.
       5741416455523358
                                                                       sol_a_i: 30.0 sol_g_i: 0.0 d_i: 70.0 sol_taoi: 30.0 sol_deltai: 58.0 sol_deltai - sol_taoi: 28.0 sol_taoP
 33
           i: 4.0 1 i: 6.0 p i: 11.0 aI i: 30.0
        30.0 sol_deltaP: 35.0 sol_deltaP - sol_taoP: 5.0 cl_i: 7318466.0 sol_c_i: 7318466.0 sol_gp_i: 0.0 total work: 7909320.0 wasted work: 2.
       2411054300496125
      Time: 23.000000
 35
 36
 37
 38
```