1 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=19372

2

3 import sys; print('Python %s on %s' % (sys.version, sys.platform))

4 sys.path.extend(['E:\\1 □□□□\\3 □□□□\\1 □□□□□□\\1 □□□□□□□□\\1_□□□□□□_□□□□\\1_LW _□□□□1\\4 □□□□\\3 python_code\\9 Code for this paper', 'E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW _□□□□1/4 □□□□/3 python_code/9 Code for this paper'])

5

6 PyDev console: starting.

7

8 Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32

9 >>> runfile('E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW _□□□□1/4 □□□□/3 python_code/9 Code for this paper/main_RO_BDC.py', wdir='E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW _□□□□1/4 □□□□/3 python_code/9 Code for this paper')

10 Backend TkAgg is interactive backend. Turning interactive mode on.

11 Waiting 5s......

12

13 Optimize the ./R_11_3.xlsx instance by BDC

14

15   Master protblem status = 2 , is Optimal

16   sol_MP_obj = 346.0

17 The initial lb = -inf   ub = inf

18

19 The current iteration cnt = 0

20   Dual problem status = 2 , is Optimal

21   Add optimal cut

22   Master protblem status = 2 , is Optimal

23   Deterministic Sub problem Status= 2 , is Optimal

24   lb = 370.0998579837725   ub = 370.0998579837725

25   MPObj = 370.0998579837725   MPObj_Remove_Hua = 367.0   DualSPObj = 3.0998579837724787   Hua = 3.0998579837724782 Deterministic_SP_SPObj = 290.0

26

27 ub - lb = 0.0

28

29 Iteration cycle stopped by termination criterion 1: Because ub - lb <= eps, the iteration stop, and cnt = 0

30   i: 0.0 l_i: 5.0 p_i: 0.0 al_i: 3.0   sol_a_i: 3.0 sol_g_i: 0.0 d_i: 12.0 sol_taoi: 3.0 sol_deltai: 7.0 sol_deltai - sol_taoi: 4.0   sol_taoP: 3.0 sol_deltaP: 4.0 sol_deltaP - sol_taoP: 1.0 cl_i: 1004598.0   sol_c_i: 1004598.0 sol_gp_i: 0.0 total work: 1054576.0 wasted work: 0.18956623325393335

31   i: 1.0 l_i: 5.0 p_i: 11.0 al_i: 4.0   sol_a_i: 4.0 sol_g_i: 0.0 d_i: 25.0 sol_taoi: 4.0 sol_deltai: 18.0 sol_deltai - sol_taoi: 14.0   sol_taoP: 4.0 sol_deltaP: 7.0 sol_deltaP - sol_taoP: 3.0 cl_i: 3514722.0   sol_c_i: 3514722.0 sol_gp_i: 0.0 total work: 4745592.0 wasted work: 4.668682010590038

32   i: 2.0 l_i: 5.0 p_i: 6.0 al_i: 9.0   sol_a_i: 9.0 sol_g_i: 0.0 d_i: 27.0 sol_taoi: 9.0 sol_deltai: 17.0 sol_deltai - sol_taoi: 8.0   sol_taoP: 9.0 sol_deltaP: 11.0   sol_deltaP - sol_taoP: 2.0 cl_i: 1965294.0   sol_c_i: 1965294.0 sol_gp_i: 0.0 total work: 2109152.0 wasted work: 0.5456524707560195

33   i: 3.0 l_i: 5.0 p_i: 16.0 al_i: 9.0   sol_a_i: 9.0 sol_g_i: 0.0 d_i: 30.0 sol_taoi: 9.0 sol_deltai: 17.0 sol_deltai - sol_taoi: 8.0   sol_taoP: 9.0 sol_deltaP: 11.0   sol_deltaP - sol_taoP: 2.0 cl_i: 1881520.0   sol_c_i: 1881520.0 sol_gp_i: 0.0 total work: 2240974.0 wasted work: 1.363406715115838

34   i: 4.0 l_i: 5.0 p_i: 21.0 al_i: 14.0   sol_a_i: 14.0 sol_g_i: 0.0 d_i: 29.0 sol_taoi: 14.0 sol_deltai: 18.0 sol_deltai - sol_taoi: 4.0   sol_taoP: 14.0 sol_deltaP: 15.0   sol_deltaP - sol_taoP: 1.0 cl_i: 1031972.0   sol_c_i: 1031972.0 sol_gp_i: 0.0 total work: 1318220.0 wasted work: 1.0857368269332888

35   i: 5.0 l_i: 6.0 p_i: 0.0 al_i: 16.0   sol_a_i: 16.0 sol_g_i: 0.0 d_i: 28.0 sol_taoi: 16.0   sol_deltai: 26.0 sol_deltai - sol_taoi: 10.0 sol_taoP: 16.0   sol_deltaP: 19.0   sol_deltaP - sol_taoP: 3.0 cl_i: 2408183.0   sol_c_i: 2408183.0 sol_gp_i: 0.0 total work: 3163728.0 wasted work: 2.865777336104747

36   i: 6.0 l_i: 5.0 p_i: 16.0 al_i: 25.0   sol_a_i: 29.0 sol_g_i: 0.8 d_i: 55.0 sol_taoi: 29.0   sol_deltai: 40.0 sol_deltai - sol_taoi: 11.0 sol_taoP: 29.0 sol_deltaP: 32.0   sol_deltaP - sol_taoP: 3.0 cl_i: 2865744.0   sol_c_i: 4131235.2 sol_gp_i: 0.8 total work: 4745592.0 wasted work: 2.3302513996146312

37   i: 7.0 l_i: 6.0 p_i: 5.0 al_i: 32.0   sol_a_i: 35.2 sol_g_i: 0.4 d_i: 60.0 sol_taoi: 36.0   sol_deltai: 44.0 sol_deltai - sol_taoi: 8.0   sol_taoP: 36.0 sol_deltaP: 38.0   sol_deltaP - sol_taoP: 2.0 cl_i: 1874041.0   sol_c_i: 1874041.0 sol_gp_i: 0.0 total work: 2109152.0 wasted work: 0.8917745141175221

38   i: 8.0 l_i: 5.0 p_i: 11.0 al_i: 36.0   sol_a_i: 36.0 sol_g_i: 0.0 d_i: 80.0 sol_taoi: 36.0   sol_deltai: 52.0 sol_deltai - sol_taoi: 16.0 sol_taoP: 36.0 sol_deltaP: 40.0   sol_deltaP - sol_taoP: 4.0 cl_i: 4027204.0   sol_c_i: 4659949.6 sol_gp_i: 0.6 total work: 5272880.0 wasted work: 2.324841073568905

39   i: 9.0 l_i: 5.0 p_i: 0.0 al_i: 41.0   sol_a_i: 48.0 sol_g_i: 1.0 d_i: 67.0 sol_taoi: 48.0   sol_deltai: 59.0 sol_deltai - sol_taoi: 11.0 sol_taoP: 48.0   sol_deltaP: 53.0   sol_deltaP - sol_taoP: 5.0 cl_i: 2691443.0   sol_c_i: 4536951.0 sol_gp_i: 1.0 total work: 5272880.0 wasted work: 2.791373973995236

40   i: 10.0 l_i: 5.0 p_i: 5.0 al_i: 50.0   sol_a_i: 55.6 sol_g_i: 0.8 d_i: 82.0 sol_taoi: 56.0   sol_deltai: 69.0 sol_deltai - sol_taoi: 13.0 sol_taoP: 56.0 sol_deltaP: 60.0   sol_deltaP - sol_taoP: 4.0 cl_i: 3188206.0   sol_c_i: 3504578.8 sol_gp_i: 0.6 total work: 3954660.0 wasted work: 1.7071551030935663

41

42 Optimal objective = 657.0

43

44 Time: 1076.000000

45

46

47

48