```
D:\Python\Python\setroute\python.exe "D:\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Python\Pyt
      mode=client --port=6946
  2
  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
      main_DM.py', wdir='E:/1 000/3 00000/1 000000/1 000000/1 000000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1 00000/1
10
      Backend TkAgg is interactive backend. Turning interactive mode on.
11
      Waiting 5s.....
      Optimize the ./R 6 2.xlsx instance
13
14
15
      Set parameter TimeLimit to value 1200
16
      Set parameter PoolSolutions to value 3
17
18
      Set parameter PoolGap to value 0.05
       Set parameter PoolSearchMode to value 2
19
20
     Gurobi Optimizer version 11.0.0 build v11.0.0rc2 (win64 - Windows 10.0 (19045.2))
21
22 CPU model: 11th Gen Intel(R) Core(TM) i7-11370H @ 3.30GHz, instruction set [SSE2|AVX|AVX2|AVX512]
      Thread count: 4 physical cores, 8 logical processors, using up to 8 threads
24
      Optimize a model with 100206 rows, 47910 columns and 292506 nonzeros
25
26
      Model fingerprint: 0xd75c53fa
       Variable types: 0 continuous, 47910 integer (40308 binary)
     Coefficient statistics:
28
29
        Matrix range [1e+00, 5e+05]
        Objective range [1e+00, 1e+00]
        Bounds range [1e+00, 1e+00]
31
                                [1e+00, 5e+06]
        RHS range
33
      Presolve removed 85530 rows and 2252 columns
      Presolve time: 0.13s
      Presolved: 14676 rows, 45658 columns, 42324 nonzeros
35
36
       Variable types: 0 continuous, 45658 integer (38062 binary)
      Root relaxation: objective 3.777670e+02, 1657 iterations, 0.08 seconds (0.19 work units)
38
39
40
          Nodes | Current Node | Objective Bounds
41
       Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time
42
43
                 0 377.76700 0 1321
                                                              - 377.76700
44
      H = 0
                   0
                                          637.0000000 377.76700 40.7% -
45
                 0 398.99674 0 1323 637.00000 398.99674 37.4% -
           0
                 0 433.10181 0 1323 637.00000 433.10181 32.0%
46
47
                 0 433.15641
                                        0 1108 637.00000 433.15641 32.0%
                 0\ 434.11203\quad 0\ 1282\ 637.00000\ 434.11203\ 31.9\%
48
49
                 0 434.11274 0 1281 637.00000 434.11274 31.9%
           0
                                                                                                              88
50
           0
                 0 434.22860 0 1042 637.00000 434.22860 31.8%
                 0 434.22860 0 885 637.00000 434.22860 31.8%
                 2 434.22860 0 881 637.00000 434.22860 31.8%
        1726 1779 469.49060 290 684 637.00000 434.22860 31.8% 31.4 15s
53
        3342 3225 616.00000 350 1007 637.00000 616.00000 3.30% 31.8 21s
        3352 3232 626.06056 83 243 637.00000 626.06056 1.72% 31.7 26s
56
        3361 3238 627.86147 315 257 637.00000 627.86147 1.43% 31.6 30s
                                               636.0000000 634.00000 0.31% 37.9 31s
57
      H 3366 3079
58
       * 3368 2642
                                        23
                                              635.0000000 635.00000 0.00% 37.9 31s
60 Optimal solution found at node 3368 - now completing solution pool...
61
        3369 2642 635.00000 103 0 636.00000 635.00000 0.16% 37.8 31s
63
      Explored 3380 nodes (137044 simplex iterations) in 31.51 seconds (39.53 work units)
64
      Thread count was 8 (of 8 available processors)
65
66
       Solution count 3: 635 635 635
      No other solutions better than 635
67
68
69
       Optimal solution found (tolerance 1.00e-04)
70
      Best objective 6.350000000000e+02, best bound 6.35000000000e+02, gap 0.0000%
72
      Output optimal solution and the Optimal Obj: 635.0
73
74
75 Obj = 635.0
76
77
      Solutions:
           The total pi = 92.0
78
79
           The total duration time in berth stage = 98.0
80
           The total duration time in quay crane scheduling stage = 19.0
```

81 82 83	The total departure time in berth stage= 357.0 The total departure time in quay crane scheduling stage = 278.0 The total wasted crane work hour according QC0= 2.802248486595561					
84 85	The last depature time in quay crane scheduling stage = 62.0					
86	The specific solution are as follows:					
87	Vessel i: 0: li: 6, deltaPi SP: 58-62,	pi: 22-28, periodPi: 4,	ai-di: 58-81,	taoi-deltai: 58-79, c i: 5386717,	periodi: 21, dowork: 5668346,	taoPi_SP- fa i: 4
88	Vessel i: 1: li: 4, deltaPi_SP: 41-45,	pi: 14-18, periodPi: 4,	ai-di: 41-64,	taoi-deltai: 41-62, c_i: 5418241,	periodi: 21, dowork: 5536524,	taoPi_SP- fa_i: 4
89	Vessel i: 2: li: 4, deltaPi_SP: 55-58,	pi: 18-22, periodPi: 3,	ai-di: 55-67,	taoi-deltai: 55-65, c_i: 2627146,	periodi: 10, dowork: 2768262,	taoPi_SP- fa_i: 2
90	Vessel i: 3: li: 6, : 52-56,	pi: 8-14, periodPi: 4,	ai-di: 52-72, c i: 45	taoi-deltai: 52-70, 02100,	periodi: 18, dowork: 4613770,	taoPi_SP-deltaPi_SP fa i: 3
91	Vessel i: 4: li: 7, deltaPi_SP: 40-42,	pi: 22-29, periodPi: 2,	ai-di: 40-60,	taoi-deltai: 40-54, c_i: 3668136,	periodi: 14, dowork: 3691016,	taoPi_SP- fa_i: 6
92	Vessel i: 5: li: 6, : 13-15,	pi: 8-14, periodPi: 2,	ai-di: 13-29, c i: 36	taoi-deltai: 13-27, 27798,	periodi: 14, dowork: 3691016,	taoPi_SP-deltaPi_SP fa i: 5
93 94	TimeSolveModel: 39.000	0000				
95 96	TimeAll: 42.000000					
97						