<untitled> #37

MODELS
Model-01   Flashlight
Model-02   Radio
Model-03   Toy Car
Model-04   Ball Point Pen

If model-01 is disassemble in line -- 1; otherwise -- 0 = 1
If model-02 is disassemble in line -- 1; otherwise -- 0 = 1
If model-03 is disassemble in line -- 1; otherwise -- 0 = 1
If model-04 is disassemble in line -- 1; otherwise -- 0 = 1

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Academic license - for non-commercial use only
Gurobi Optimizer version 9.0.3 build v9.0.3rc0 (win64)
Optimize a model with 87256 rows, 6944 columns and 436239 nonzeros
Model fingerprint: 0x49b15a96
Variable types: 157 continuous, 6787 integer (6787 binary)
Coefficient statistics:
  Matrix range     [1e+00, 1e+05]
  Objective range  [1e-06, 1e+00]
  Bounds range     [1e+00, 1e+00]
  RHS range        [1e+00, 3e+05]
Presolve removed 72682 rows and 3111 columns
Presolve time: 2.38s
Presolved: 14574 rows, 3833 columns, 71431 nonzeros
Variable types: 130 continuous, 3703 integer (3703 binary)
Found heuristic solution: objective 3.0124990

Root relaxation: objective 3.009457e+00, 274 iterations, 0.05 seconds

    Nodes    |    Current Node    |     Objective Bounds      |     Work
 Expl Unexpl |  Obj  Depth IntInf | Incumbent    BestBd   Gap | It/Node Time

     0     0    3.00946    0   25    3.01250    3.00946  0.10%     -    2s
H    0     0                       3.0124760    3.00946  0.10%     -    2s
H    0     0                       3.0124560    3.00946  0.10%     -    2s
     0     0    3.00947    0   49    3.01246    3.00947  0.10%     -    2s
H    0     0                       3.0104560    3.00947  0.03%     -    3s
     0     0    3.00947    0   49    3.01046    3.00947  0.03%     -    3s
     0     0    3.00996    0   30    3.01046    3.00996  0.02%     -    3s
     0     0    3.00996    0   28    3.01046    3.00996  0.02%     -    3s
     0     0    3.00996    0   20    3.01046    3.00996  0.02%     -    3s
H    0     0                       3.0104520    3.00996  0.02%     -    3s
     0     0     cutoff    0         3.01045    3.01045  0.00%     -    3s

Explored 1 nodes (1010 simplex iterations) in 3.89 seconds
Thread count was 4 (of 4 available processors)
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Solution count 5: 3.01045 3.01046 3.01246 ... 3.0125

Optimal solution found (tolerance 1.00e-04)
Best objective 3.010452000000e+00, best bound 3.010452000000e+00, gap 0.0000%
<gurobi.Model MIP instance MILP Model: 87256 constrs, 6944 vars, No parameter changes>

Solution Results

Time = 11.239116907119751 second
Total number of stations opened from both sides : 2.0
Total number of stations opened from only one side : 1.0
Total number of stations opened : 5.0
MODEL- m3

(m, i)	(j,s)	Processing Time	Starting Time	Ending Time
('m3', 2) :	[(1, 1)]	3	0.0	3.0
('m3', 7) :	[(1, 1)]	37	3.0	40.0
('m3', 13) :	[(3, 1)]	2	11.0	13.0
('m3', 33) :	[(3, 1)]	10	13.0	23.0
('m3', 49) :	[(2, 2)]	34	0.0	34.0
('m3', 74) :	[(3, 1)]	11	0.0	11.0
('m3', 96) :	[(3, 2)]	29	11.0	40.0
('m3', 97) :	[(3, 1)]	14	23.0	37.0

MODEL- m2

(m, i)	(j,s)	Processing Time	Starting Time	Ending Time
('m2', 1) :	[(1, 2)]	11	0.0	11.0
('m2', 3) :	[(1, 1)]	20	11.0	31.0
('m2', 4) :	[(2, 2)]	14	0.0	14.0
('m2', 5) :	[(2, 2)]	19	14.0	33.0
('m2', 6) :	[(3, 2)]	1	5.0	6.0
('m2', 9) :	[(3, 1)]	6	34.0	40.0
('m2', 17) :	[(3, 2)]	6	24.000000000000003	30.000000000000003
('m2', 29) :	[(3, 1)]	4	30.0	34.0
('m2', 30) :	[(3, 2)]	5	0.0	5.0

MODEL- m1

(m, i)	(j,s)	Processing Time	Starting Time	Ending Time
('m1', 2) :	[(1, 2)]	28	0.0	28.0
('m1', 5) :	[(2, 2)]	13	0.0	13.0
('m1', 7) :	[(3, 1)]	6	0.0	6.0
('m1', 8) :	[(2, 2)]	18	13.0	31.0
('m1', 9) :	[(3, 2)]	25	0.0	25.0
('m1', 10) :	[(3, 2)]	10	25.0	35.0

MODEL- m4

(m, i)	(j,s)	Processing Time	Starting Time	Ending Time
('m4', 1) :	[(1, 1)]	5	0.0	5.0
('m4', 4) :	[(1, 2)]	7	5.0	12.0
('m4', 6) :	[(2, 2)]	11	29.0	40.0
('m4', 9) :	[(1, 2)]	16	12.0	28.0
('m4', 11) :	[(3, 1)]	33	5.999999999999972	38.99999999999997

('m4', 13) :	[(1, 1)]	6	28.0	34.0
('m4', 17) :	[(2, 2)]	16	0.0	16.0
('m4', 18) :	[(3, 2)]	32	8.0	40.0