<untitled> #30

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

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Warning: your license will expire in 3 days
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Using license file C:\gurobi903\win64\bin\gurobi.lic
Academic license - for non-commercial use only
Gurobi Optimizer version 9.0.3 build v9.0.3rc0 (win64)
Optimize a model with 11457 rows, 1310 columns and 57063 nonzeros
Model fingerprint: 0x2a8587e0
Variable types: 60 continuous, 1250 integer (1250 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 10743 rows and 1001 columns
Presolve time: 0.12s
Presolved: 714 rows, 309 columns, 4647 nonzeros
Variable types: 40 continuous, 269 integer (269 binary)
Found heuristic solution: objective 3.0123160

Root relaxation: objective 1.396840e+00, 376 iterations, 0.02 seconds

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

     0     0    1.39684    0   39    3.01232    1.39684  53.6%     -    0s
     0     0    2.00567    0   62    3.01232    2.00567  33.4%     -    0s
     0     0    2.00596    0   49    3.01232    2.00596  33.4%     -    0s
     0     0    2.00598    0   50    3.01232    2.00598  33.4%     -    0s
     0     0    2.00706    0   53    3.01232    2.00706  33.4%     -    0s
     0     0    2.00709    0   47    3.01232    2.00709  33.4%     -    0s
     0     0    2.00832    0   11    3.01232    2.00832  33.3%     -    0s
H    0     0                       3.0103160    2.00832  33.3%     -    0s
     0     0    2.01046    0   46    3.01032    2.01046  33.2%     -    0s
     0     0    2.01682    0   58    3.01032    2.01682  33.0%     -    0s
     0     0    2.01685    0   62    3.01032    2.01685  33.0%     -    0s
     0     0    2.25733    0   54    3.01032    2.25733  25.0%     -    0s
     0     0    2.30030    0   55    3.01032    2.30030  23.6%     -    0s
     0     0    2.30030    0   55    3.01032    2.30030  23.6%     -    0s
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0	0	2.30043	0	55	3.01032	2.30043	23.6%	-	0s
0	0	2.30043	0	55	3.01032	2.30043	23.6%	-	0s
0	0	2.30043	0	53	3.01032	2.30043	23.6%	-	0s
0	0	2.30043	0	53	3.01032	2.30043	23.6%	-	0s
0	0	2.30043	0	50	3.01032	2.30043	23.6%	-	0s
0	0	2.30043	0	51	3.01032	2.30043	23.6%	-	0s
0	0	2.30043	0	40	3.01032	2.30043	23.6%	-	0s
0	0	2.30043	0	52	3.01032	2.30043	23.6%	-	0s
0	0	2.30043	0	49	3.01032	2.30043	23.6%	-	0s
0	0	2.30043	0	49	3.01032	2.30043	23.6%	-	0s
0	2	2.30043	0	44	3.01032	2.30043	23.6%	-	0s

Cutting planes:
  Learned: 3
  Gomory: 1
  Cover: 16
  Implied bound: 1
  Clique: 11
  MIR: 11
  Flow cover: 2
  GUB cover: 2
  Zero half: 3
  RLT: 3
  Relax-and-lift: 1

Explored 20 nodes (1825 simplex iterations) in 0.59 seconds
Thread count was 4 (of 4 available processors)

Solution count 2: 3.01032 3.01232

Optimal solution found (tolerance 1.00e-04)
Best objective 3.010316000000e+00, best bound 3.010316000000e+00, gap 0.0000%
<gurobi.Model MIP instance MILP Model: 11457 constrs, 1310 vars, No parameter changes>

Solution Results

Time = 1.6017603874206543 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- 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	21.0	28.0
('m4', 6) :	[(1, 1)]	11	28.0	39.0
('m4', 9) :	[(1, 2)]	16	5.0	21.0
('m4', 11) :	[(3, 1)]	33	6.0	39.0
('m4', 13) :	[(3, 1)]	6	0.0	6.0
('m4', 17) :	[(3, 2)]	16	6.0	22.0
('m4', 18) :	[(2, 2)]	32	0.0	32.0

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	16.0	22.0
('m2', 17) :	[(3, 2)]	6	6.0	12.0
('m2', 29) :	[(3, 2)]	4	12.0	16.0
('m2', 30) :	[(3, 2)]	5	0.0	5.0

MODEL- m1

(m, i)	(j,s)	Processing Time	Starting Time	Ending Time
('m1', 1) :	[(1, 1)]	30	10.0	40.0
('m1', 3) :	[(3, 2)]	12	0.0	12.0
('m1', 6) :	[(3, 1)]	21	18.0	39.0
('m1', 7) :	[(3, 1)]	6	12.0	18.0
('m1', 9) :	[(2, 2)]	25	0.0	25.0
('m1', 10) :	[(3, 2)]	10	12.0	22.0