```
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Using license file /home/zijie/gurobi.lic
Changed value of parameter timelimit to 300.0
   Prev: inf  Min: 0.0  Max: inf  Default: inf
Gurobi Optimizer version 9.1.1 build v9.1.1rc0 (linux64)
Thread count: 8 physical cores, 8 logical processors, using up to 8 threads
Optimize a model with 30626 rows, 30800 columns and 151380 nonzeros
Model fingerprint: 0x4ba55dc7
Variable types: 0 continuous, 30800 integer (30625 binary)
Coefficient statistics:
  Matrix range     [1e+00, 2e+02]
  Objective range  [7e+01, 1e+07]
  Bounds range     [1e+00, 2e+02]
  RHS range        [1e+00, 2e+02]
Presolve removed 174 rows and 176 columns
Presolve time: 0.14s
Presolved: 30452 rows, 30624 columns, 151206 nonzeros
Variable types: 0 continuous, 30624 integer (30450 binary)

Deterministic concurrent LP optimizer: primal and dual simplex
Showing first log only...

Concurrent spin time: 0.00s

Solved with dual simplex

Root relaxation: objective 2.025148e+04, 775 iterations, 0.08 seconds

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

     0     0 20251.4828    0  297          - 20251.4828      -     -    0s
     0     0 20924.7816    0  410          - 20924.7816      -     -    1s
     0     0 20924.7816    0  400          - 20924.7816      -     -    1s
     0     0 20964.2011    0  401          - 20964.2011      -     -    1s
     0     0 21011.8621    0  403          - 21011.8621      -     -    2s
     0     0 21088.0115    0  429          - 21088.0115      -     -    2s
     0     0 21089.0000    0  409          - 21089.0000      -     -    2s
     0     0 21089.0000    0  413          - 21089.0000      -     -    2s
     0     0 21089.0000    0  422          - 21089.0000      -     -    2s
     0     0 21089.0000    0  418          - 21089.0000      -     -    3s
     0     0 21089.0000    0  423          - 21089.0000      -     -    3s
     0     0 21089.0000    0  425          - 21089.0000      -     -    3s
     0     0 21089.0000    0  313          - 21089.0000      -     -    3s
     0     0 21089.0000    0  374          - 21089.0000      -     -    4s
     0     0 21089.0000    0  308          - 21089.0000      -     -    4s
     0     0 21089.0000    0  357          - 21089.0000      -     -    4s
     0     0 21089.0000    0  317          - 21089.0000      -     -    5s
     0     0 21089.0000    0  366          - 21089.0000      -     -    5s
     0     0 21089.0000    0  311          - 21089.0000      -     -    5s
     0     0 21089.0000    0  350          - 21089.0000      -     -    5s
H    0     0                    25218.000000 21089.0000  16.4%     -    6s
     0     0 21089.0000    0  299 25218.0000 21089.0000  16.4%     -    6s
     0     0 21089.0000    0  293 25218.0000 21089.0000  16.4%     -    6s
H    0     0                    24332.000000 21140.0000  13.1%     -    7s
     0     2 21140.0000    0  293 24332.0000 21140.0000  13.1%     -    7s
H   31    40                    24083.000000 21140.0000  12.2%  81.9   11s
H   32    40                    22610.000000 21140.0000  6.50%  80.4   11s
H   34    40                    22376.000000 21140.0000  5.52%  77.8   11s
   252   256 21218.6839   34  321 22376.0000 21140.0000  5.52%  31.2   15s
H  256   256                    22361.000000 21140.0000  5.46%  30.8   15s
   968  1017 21540.2069  137  269 22361.0000 21140.0000  5.46%  17.5   20s
  2032  2038 22217.5549  288  228 22361.0000 21140.0000  5.46%  14.9   25s
  3111  3095 21233.7706   50  392 22361.0000 21140.0000  5.46%  13.9   30s
  4428  4328 21865.7407  242  339 22361.0000 21140.0000  5.46%  13.2   35s
  5587  5476 22275.5833  408  231 22361.0000 21140.0000  5.46%  12.8   40s
```

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  6341  6018 21389.0418   42  301 22361.0000 21140.0000  5.46%  13.2   45s
H 6501  6000                    22346.000000 21140.0000  5.40%  13.2   45s
H 6502  5946                    22325.000000 21140.0000  5.31%  13.2   45s
  6503  5941 21259.7761   24  293 22325.0000 21140.0000  5.31%  13.2   65s
  6505  5942 21442.9495  105  293 22325.0000 21140.0000  5.31%  13.2   71s
H 6505  5644                    21744.000000 21140.0000  2.78%  13.2   91s
  6509  5647 21275.5805  121  336 21744.0000 21161.0780  2.68%  13.2   95s
  6510  5648 21320.2790   88  333 21744.0000 21175.7437  2.61%  13.2  100s
  6513  5650 21744.0000  222  367 21744.0000 21203.8660  2.48%  13.2  107s
  6516  5652 21230.0529   22  403 21744.0000 21214.9286  2.43%  13.2  112s
  6517  5652 21708.4387  224  416 21744.0000 21225.7429  2.38%  13.2  117s
  6519  5654 21744.0000  662  481 21744.0000 21227.2500  2.38%  13.2  121s
  6520  5654 21744.0000  328  375 21744.0000 21233.9163  2.35%  13.2  126s
  6521  5655 21740.1312   82  386 21744.0000 21233.9997  2.35%  13.2  132s
  6522  5656 21447.1397   83  329 21744.0000 21235.4996  2.34%  13.2  142s
  6523  5656 21744.0000  243  407 21744.0000 21235.5070  2.34%  13.2  148s
  6524  5657 21744.0000  303  371 21744.0000 21235.5070  2.34%  13.2  158s
  6525  5658 21235.5070   12  422 21744.0000 21235.5070  2.34%  13.2  165s
  6526  5658 21447.3756  179  428 21744.0000 21236.6188  2.33%  13.2  174s
  6528  5660 21744.0000  387  438 21744.0000 21240.1196  2.32%  13.2  175s
  6529  5660 21434.9536   96  441 21744.0000 21240.1711  2.32%  13.2  184s
  6530  5661 21744.0000  191  304 21744.0000 21240.7996  2.31%  13.2  193s
  6531  5662 21744.0000  260  391 21744.0000 21240.7996  2.31%  13.2  201s
  6532  5662 21599.2371  108  401 21744.0000 21242.5249  2.31%  13.2  210s
  6533  5663 21669.4712  208  432 21744.0000 21242.7042  2.31%  13.2  219s
  6534  5664 21744.0000  330  380 21744.0000 21243.1665  2.30%  13.2  226s
  6536  5665 21571.7471  123  486 21744.0000 21243.6270  2.30%  13.2  234s
  6537  5666 21744.0000  376  505 21744.0000 21243.7217  2.30%  13.2  242s
  6538  5666 21744.0000  267  498 21744.0000 21243.8174  2.30%  13.2  251s
H 6538  5382                    21730.000000 21243.8797  2.24%  13.2  271s
  6540  5384 21261.8996   35  484 21730.0000 21243.8797  2.24%  13.2  284s
  6541  5384 21730.0000  453  335 21730.0000 21243.8797  2.24%  13.1  299s

Cutting planes:
  Learned: 9
  Gomory: 65
  Implied bound: 6
  Projected implied bound: 1
  Clique: 1
  MIR: 35
  Flow cover: 41
  Zero half: 27
  RLT: 2
  Relax-and-lift: 1

Explored 6541 nodes (111973 simplex iterations) in 300.05 seconds
Thread count was 8 (of 8 available processors)

Solution count 10: 21730 21744 22325 ... 25218

Time limit reached
Best objective 2.173000000000e+04, best bound 2.124400000000e+04, gap 2.2365%
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