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1 /Users/kaizhang/opt/anaconda3/envs/mesmo/bin/python
  /Users/kaizhang/Development/mesmo/examples/
  development/stationary_storage_case_study/st_main.
  py
2 (CVXPY) Mar 20 09:34:57 PM: Encountered unexpected
  exception importing solver SCIP:
3 NotImplementedError("PySCIP0pt (SCIP's Python
  wrapper) is installed and its version is 4.2.0.
  CVXPY only supports PySCIP0pt < 4.0.0.")
4 2023-03-20 21:35:00,329 | INFO | loading dataset...
5 duplicated time stamps
6 3988      2018-03-25 02:00:00
7 3989      2018-03-25 02:30:00
8 21796     2019-03-31 02:00:00
9 21797     2019-03-31 02:30:00
10 39268     2020-03-29 02:00:00
11 39269     2020-03-29 02:30:00
12 dtype: datetime64[ns]
13 2023-03-20 21:35:03,035 | INFO | Warning: It seems
  there is duplicated values in the time stamp data.
14 2023-03-20 21:35:03,036 | INFO | Initializing
  stationary storage wholesale market optimisation
  model...
15 2023-03-20 21:35:03,544 | WARNING | `mesmo.utils.
  OptimizationProblem` is a placeholder for `mesmo.
  solutions.OptimizationProblem` for backwards
  compatibility and will be removed in a future
  version of MESMO.
16 100% of loop constraints extracted - to be replaced
  by broadcast in the future2023-03-20 21:42:10,309
  | INFO | Define objective function
17 2023-03-20 21:42:10,697 | INFO | model defined!
18 Set parameter Username
19 Academic license - for non-commercial use only -
  expires 2023-07-10
20 Gurobi Optimizer version 9.5.2 build v9.5.2rc0 (
  mac64[rosetta2])
21 Thread count: 10 physical cores, 10 logical
  processors, using up to 10 threads
22 Optimize a model with 1152995 rows, 526081 columns
  and 2516418 nonzeros
```

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23 Model fingerprint: 0xabed2692
24 Variable types: 473473 continuous, 52608 integer (
    52608 binary)
25 Coefficient statistics:
26   Matrix range      [1e-01, 2e+00]
27   Objective range   [5e-03, 3e+02]
28   Bounds range      [0e+00, 0e+00]
29   RHS range         [1e+00, 5e+03]
30 Found heuristic solution: objective 0.0000000
31 Presolve removed 970641 rows and 315131 columns
32 Presolve time: 1.96s
33 Presolved: 182354 rows, 210950 columns, 576700
    nonzeros
34 Variable types: 158343 continuous, 52607 integer (
    52607 binary)
35
36 Deterministic concurrent LP optimizer: primal and
    dual simplex
37 Showing first log only...
38
39
40 Root simplex log...
41
42 Iteration      Objective          Primal Inf.      Dual
    Inf.        Time
43   125871      -9.8272223e+04    0.0000000e+00    3.
    378334e+04        5s
44 Concurrent spin time: 0.02s
45
46 Solved with dual simplex
47
48 Root relaxation: objective -1.086657e+05, 55732
    iterations, 6.04 seconds (12.86 work units)
49
50   Nodes      |   Current Node   |   Objective
    Bounds      |   Work
51  Expl Unexpl |  Obj  Depth IntInf | Incumbent
    BestBd   Gap | It/Node Time
52
53      0      0 -108665.70    0  174    0.00000 -
    108665.70      -      -    8s

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54	H	0	0			-105729.9349	-
		108665.70	2.78%	-	23s		
55		0	0	-108118.49	0	103	-105729.93 -
		108118.49	2.26%	-	24s		
56	H	0	0			-106922.0266	-
		108118.49	1.12%	-	25s		
57		0	0	-108089.05	0	89	-106922.03 -
		108089.05	1.09%	-	25s		
58		0	0	-108044.90	0	89	-106922.03 -
		108044.90	1.05%	-	25s		
59		0	0	-108020.81	0	85	-106922.03 -
		108020.81	1.03%	-	25s		
60		0	0	-107998.06	0	85	-106922.03 -
		107998.06	1.01%	-	25s		
61		0	0	-107976.62	0	84	-106922.03 -
		107976.62	0.99%	-	25s		
62		0	0	-107953.25	0	85	-106922.03 -
		107953.25	0.96%	-	25s		
63		0	0	-107942.20	0	84	-106922.03 -
		107942.20	0.95%	-	25s		
64		0	0	-107922.59	0	84	-106922.03 -
		107922.59	0.94%	-	25s		
65		0	0	-107898.70	0	84	-106922.03 -
		107898.70	0.91%	-	25s		
66		0	0	-107877.58	0	84	-106922.03 -
		107877.58	0.89%	-	26s		
67		0	0	-107860.29	0	84	-106922.03 -
		107860.29	0.88%	-	26s		
68		0	0	-107845.22	0	84	-106922.03 -
		107845.22	0.86%	-	26s		
69		0	0	-107840.43	0	84	-106922.03 -
		107840.43	0.86%	-	26s		
70		0	0	-107833.15	0	86	-106922.03 -
		107833.15	0.85%	-	26s		
71		0	0	-107831.15	0	86	-106922.03 -
		107831.15	0.85%	-	26s		
72		0	0	-107829.84	0	84	-106922.03 -
		107829.84	0.85%	-	26s		
73		0	0	-107825.78	0	85	-106922.03 -
		107825.78	0.85%	-	26s		
74		0	0	-107787.52	0	81	-106922.03 -

74	107787.52	0.81%	-	26s		
75	0	0	-107765.76	0	83	-106922.03 -
	107765.76	0.79%	-	27s		
76	0	0	-107743.97	0	81	-106922.03 -
	107743.97	0.77%	-	27s		
77	0	0	-107730.61	0	79	-106922.03 -
	107730.61	0.76%	-	27s		
78	0	0	-107709.83	0	79	-106922.03 -
	107709.83	0.74%	-	27s		
79	0	0	-107681.63	0	78	-106922.03 -
	107681.63	0.71%	-	27s		
80	0	0	-107664.56	0	78	-106922.03 -
	107664.56	0.69%	-	27s		
81	0	0	-107655.56	0	79	-106922.03 -
	107655.56	0.69%	-	27s		
82	0	0	-107641.52	0	76	-106922.03 -
	107641.52	0.67%	-	27s		
83	0	0	-107631.17	0	75	-106922.03 -
	107631.17	0.66%	-	28s		
84	0	0	-107611.29	0	75	-106922.03 -
	107611.29	0.64%	-	28s		
85	0	0	-107600.92	0	75	-106922.03 -
	107600.92	0.63%	-	28s		
86	0	0	-107596.80	0	75	-106922.03 -
	107596.80	0.63%	-	28s		
87	0	0	-107591.94	0	74	-106922.03 -
	107591.94	0.63%	-	28s		
88	0	0	-107589.68	0	74	-106922.03 -
	107589.68	0.62%	-	28s		
89	0	0	-107587.64	0	74	-106922.03 -
	107587.64	0.62%	-	29s		
90	0	0	-107586.74	0	73	-106922.03 -
	107586.74	0.62%	-	29s		
91	0	0	-107586.74	0	74	-106922.03 -
	107586.74	0.62%	-	29s		
92	0	0	-107579.41	0	76	-106922.03 -
	107579.41	0.61%	-	30s		
93	H 0	0				-107303.6367 -
	107579.41	0.26%	-	30s		
94	0	0	-107576.34	0	77	-107303.64 -
	107576.34	0.25%	-	30s		

95	0	0	-107571.90	0	76	-107303.64	-
	107571.90	0.25%	-	31s			
96	0	0	-107569.87	0	75	-107303.64	-
	107569.87	0.25%	-	31s			
97	0	0	-107569.20	0	77	-107303.64	-
	107569.20	0.25%	-	31s			
98	0	0	-107550.46	0	72	-107303.64	-
	107550.46	0.23%	-	32s			
99	0	0	-107547.15	0	74	-107303.64	-
	107547.15	0.23%	-	32s			
100	0	0	-107545.73	0	69	-107303.64	-
	107545.73	0.23%	-	32s			
101	0	0	-107545.69	0	72	-107303.64	-
	107545.69	0.23%	-	33s			
102	0	0	-107541.34	0	70	-107303.64	-
	107541.34	0.22%	-	33s			
103	0	0	-107541.28	0	73	-107303.64	-
	107541.28	0.22%	-	33s			
104	0	0	-107540.43	0	74	-107303.64	-
	107540.43	0.22%	-	34s			
105	0	0	-107540.43	0	76	-107303.64	-
	107540.43	0.22%	-	34s			
106	0	0	-107540.41	0	75	-107303.64	-
	107540.41	0.22%	-	34s			
107	H 0	0				-107306.1664	-
	107540.41	0.22%	-	34s			
108	0	0	-107540.01	0	77	-107306.17	-
	107540.01	0.22%	-	35s			
109	0	0	-107539.87	0	77	-107306.17	-
	107539.87	0.22%	-	35s			
110	0	0	-107539.61	0	77	-107306.17	-
	107539.61	0.22%	-	35s			
111	0	0	-107539.59	0	77	-107306.17	-
	107539.59	0.22%	-	35s			
112	0	0	-107539.51	0	77	-107306.17	-
	107539.51	0.22%	-	35s			
113	0	0	-107539.47	0	77	-107306.17	-
	107539.47	0.22%	-	36s			
114	0	0	-107539.47	0	76	-107306.17	-
	107539.47	0.22%	-	36s			
115	0	0	-107539.47	0	76	-107306.17	-

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115 107539.47 0.22% - 36s
116 0 0 -107539.47 0 77 -107306.17 -
    107539.47 0.22% - 37s
117 0 0 -107539.47 0 77 -107306.17 -
    107539.47 0.22% - 38s
118 0 2 -107539.47 0 75 -107306.17 -
    107539.47 0.22% - 39s
119 3 8 -107333.34 2 26 -107306.17 -
    107511.45 0.19% 42.3 40s
120 * 14 14 3 -107308.7181 -
    107462.30 0.14% 31.8 40s
121
122 Cutting planes:
123 Gomory: 43
124 Implied bound: 3
125 MIR: 70
126 Flow cover: 134
127 RLT: 3
128
129 Explored 112 nodes (62270 simplex iterations) in
    42.44 seconds (75.53 work units)
130 Thread count was 10 (of 10 available processors)
131
132 Solution count 6: -107309 -107306 -107304 ... 0
133
134 Optimal solution found (tolerance 1.00e-04)
135 Best objective -1.073087180680e+05, best bound -1.
    073129840628e+05, gap 0.0040%
136 2023-03-20 21:43:00,902 | WARNING | Duals of the
    optimization problem's constraints are not
    retrieved, because either variables have been
    defined as non-continuous or quadratic / SOC
    constraints have been added to the problem.
137 Please retrieve the duals manually.
138 2023-03-20 21:43:13,714 | INFO | run end.
139
140 Process finished with exit code 0
141

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