```
1 C:\Users\AlanKing\Miniconda3\envs\MOSDEX-test\python.exe C:/Users/AlanKing/Documents/GitHub/
  MOSDEX-python/mosdex/generate_OSI.py
 2 YES: Mosdex problem data\sailco_1-3.json is a valid instance of Mosdex schema data\
  MOSDEXSchemaV1-3-ajk.json
4 **** Executing sailcoSolve ****
5
6 ***List the Tables***
8 **Modules**
9 module_name|item_name
                                   |class_name|type_name |table_name
|DATA |INPUT |sailco_periods
11 sailco | periods
                                   IDATA
                                              INPUT
12 sailco
          demands
                                                       |sailco_demands
                                             INPUT
13 sailco
          parameters
                                   DATA
                                                      |sailco_parameters
                                   |VARIABLE |CONTINUOUS|sailco_regular
14 sailco
          |regular
                             |VARIABLE |CONTINUO
|VARIABLE |CONTINUO
|CONSTRAINT|LINEAR
|CONSTRAINT|LINEAR
          |extra
                                   |VARIABLE |CONTINUOUS|sailco_extra
|VARIABLE |CONTINUOUS|sailco_inventory
15 sailco
16 sailco
            linventory
            ctCapacity
17 sailco
                                                        |sailco_ctCapacity
18 sailco
           |ctBoat
                                                        |sailco_ctBoat
19 sailco
           lctBoat 1
                                  |CONSTRAINT|LINEAR
                                                        |sailco_ctBoat_1
20 sailco
           |totalCost
                                  |OBJECTIVE |LINEAR
                                                        |sailco_totalCost
           ctCapacity_regular | TERM
21 sailco
                                              LINEAR
                                                        |sailco_ctCapacity_regular
22 sailco
                                                        |sailco_ctBoat_regular
          |ctBoat_regular
                                   TERM
                                             LINEAR
          |ctBoat_extra
            23 sailco
                                             LINEAR
                                                        |sailco_ctBoat_extra
24 sailco
                                              LINEAR
                                                        |sailco_ctBoat_inventory
25 sailco
            |ctBoat_lagged_inventory|TERM
                                              LINEAR
                                                        |sailco_ctBoat_lagged_inventory
26
27 **Metadata**
28 module_name|item_name
                                   |class_name|name | type | usage
30 sailco | periods
                                   IDATA
                                              |Periods |INTEGER|KEY
                                                      |INTEGER|FOREIGN_KEY
31 sailco
            demands
                                   IDATA
                                              |Periods
                                              |Demands |DOUBLE |VALUE
32 sailco
             demands
                                   DATA
                                              |Name
|Value
33 sailco
             |parameters
                                   DATA
                                                        |STRING |KEY
                                                        |DOUBLE |VALUE
34 sailco
             parameters
                                   |DATA
                                   | VARIABLE | Periods | INTEGER | FOREIGN_KEY
35 sailco
           |regular
36 sailco
           Ireqular
                                   IVARIABLE | Column | ISTRING | KEY
37 sailco
           |regular
                                   |VARIABLE |LowerBound|DOUBLE |LOWER_BOUND
                                             |UpperBound|DOUBLE |UPPER_BOUND
38 sailco
                                   |VARIABLE
           |regular
           |regular
39 sailco
                                   |VARIABLE
                                             |Objective | DOUBLE | OBJECTIVE_COEFFICIENT
                                              |Value |DOUBLE |VARIABLE_VALUE
40 sailco
            lregular
                                   IVARIABLE
                                                       |INTEGER|FOREIGN_KEY
41 sailco
             extra
                                   |VARIABLE
                                              Periods
42 sailco
                                              |Column |STRING |KEY
            |extra
                                   |VARIABLE
                                             |LowerBound|DOUBLE |LOWER_BOUND
43 sailco
           |extra
                                   |VARIABLE
                                             |UpperBound|DOUBLE |UPPER_BOUND
44 sailco
           lextra
                                   IVARIABLE
45 sailco
           extra
                                   |VARIABLE
                                             |Objective | DOUBLE | OBJECTIVE_COEFFICIENT
                                   |VARIABLE |Value |DOUBLE |VARIABLE_VALUE
46 sailco
           extra
                                   |VARIABLE |Periods |INTEGER|FOREIGN_KEY
|VARIABLE |Column |STRING |KEY
47 sailco
           |inventory
48 sailco
            |inventory
49 sailco
                                   |VARIABLE
                                              |Inventory | DOUBLE | LOWER_BOUND
             linventory
                                              |UpperBound|DOUBLE |UPPER_BOUND
50 sailco
             linventory
                                   VARIABLE
                                   |VARIABLE |Objective | DOUBLE | OBJECTIVE_COEFFICIENT
51 sailco
            linventory
                                   |VARIABLE |Value |DOUBLE |VARIABLE_VALUE
52 sailco
            linventory
                                   |CONSTRAINT|Periods |INTEGER|FOREIGN_KEY
53 sailco
            ctCapacity
54 sailco
           ctCapacity
                                   |CONSTRAINT|Row |STRING |KEY
55 sailco
           |ctCapacity
                                   |CONSTRAINT|Sense
                                                       |STRING |SENSE
                                   |CONSTRAINT|RHS
|CONSTRAINT|Value
56 sailco
            |ctCapacity
                                                       |DOUBLE |RHS
57 sailco
            |ctCapacity
                                                        |DOUBLE |CONSTRAINT_VALUE
                                                      |INTEGER|FOREIGN_KEY
58 sailco
             ctBoat
                                   |CONSTRAINT|Periods
                                   |CONSTRAINT|Row |STRING |KEY |CONSTRAINT|Sense |STRING |SENSE
59 sailco
            lctBoat
60 sailco
            |ctBoat
                                                       IDOUBLE IRHS
61 sailco
            lctBoat
                                   |CONSTRAINT|RHS
                                   |CONSTRAINT|Value
62 sailco
            ctBoat
                                                       |DOUBLE |CONSTRAINT_VALUE
                                   |CONSTRAINT|Periods |INTEGER|FOREIGN_KEY
63 sailco
            ctBoat_1
                                   |CONSTRAINT|Row
                                                       |STRING |KEY
64 sailco
             ctBoat_1
```

```
|CONSTRAINT|Sense
                                                            ISTRING | SENSE
 65 sailco
               |ctBoat_1
 66 sailco
               ctBoat_1
                                       | CONSTRAINT| RHS
                                                            |DOUBLE |RHS
67 sailco
                                      |CONSTRAINT|Value
                                                            |DOUBLE |CONSTRAINT_VALUE
               ctBoat_1
68 sailco
                                      |OBJECTIVE |Value
                                                            |DOUBLE |OBJECTIVE_VALUE
               ItotalCost
69 sailco
               |ctCapacity_regular
                                      ITERM
                                                 Row
                                                            |STRING |FOREIGN_KEY
               |ctCapacity_regular
70 sailco
                                      ITERM
                                                 | Column
                                                            |STRING |FOREIGN_KEY
                                                            |DOUBLE |MATRIX_ENTRY
71 sailco
               |ctCapacity_regular
                                      TERM
                                                 |Value
72 sailco
               |ctBoat_regular
                                      TERM
                                                 Row
                                                            |STRING |FOREIGN_KEY
73 sailco
               |ctBoat_regular
                                      ITERM
                                                 |Column
                                                            |STRING |FOREIGN_KEY
74 sailco
               |ctBoat_regular
                                      |TERM
                                                  |Value
                                                            |DOUBLE |MATRIX_ENTRY
75 sailco
               |ctBoat_extra
                                      TERM
                                                 Row
                                                            |STRING |FOREIGN_KEY
                                                            |STRING |FOREIGN_KEY
76 sailco
               |ctBoat_extra
                                      TERM
                                                 | Column
77 sailco
               |ctBoat_extra
                                      ITERM
                                                 |Value
                                                            |DOUBLE |MATRIX_ENTRY
78 sailco
                                                            |STRING |FOREIGN_KEY
               |ctBoat_inventory
                                      TERM
                                                  l Row
                                                            |STRING |FOREIGN_KEY
79 sailco
               |ctBoat_inventory
                                      TERM
                                                  Column
80 sailco
               |ctBoat_inventory
                                      TERM
                                                  |Value
                                                            |DOUBLE |MATRIX_ENTRY
 81 sailco
               |ctBoat_lagged_inventory|TERM
                                                  lRow
                                                            |STRING |FOREIGN_KEY
 82 sailco
               |ctBoat_lagged_inventory|TERM
                                                  Column
                                                            |STRING |FOREIGN_KEY
83 sailco
               |ctBoat_lagged_inventory|TERM
                                                 |Value
                                                            |DOUBLE |MATRIX_ENTRY
84
85 **Independent Variables**
 86 module|variable |type
                                |lower_bound|upper_bound|value|dual
 87 -----|-----|-----|-----|-----|
88 sailco|regular_1 |CONTINUOUS|0
                                            |infinity
                                                        |None |None
 89 sailco|regular_2 |CONTINUOUS|0
                                            |infinity
                                                        INone INone
 90 sailco|regular_3 |CONTINUOUS|0
                                            |infinity
                                                        |None |None
91 sailco|regular_4 |CONTINUOUS|0
                                            |infinity
                                                        |None |None
                                                        |None |None
92 sailco|extra_1
                     |CONTINUOUS|0
                                            |infinity
93 sailco|extra_2
                                                        INone INone
                     |CONTINUOUS|0
                                            |infinity
94 sailco|extra_3
                     |CONTINUOUS|0
                                            |infinity
                                                        |None |None
95 sailco|extra_4 |CONTINUOUS|0
                                            |infinity
                                                        |None |None
                                                        |None |None
96 sailco|inventory_1|CONTINUOUS|0
                                            |infinity
97 sailco|inventory_2|CONTINUOUS|0
                                            linfinity
                                                        INone INone
98 sailco|inventory_3|CONTINUOUS|0
                                                        |None |None
                                            |infinity
99 sailco|inventory_4|CONTINUOUS|0
                                            |infinity
                                                        |None |None
100
101 **Dependent Variables**
102 module|variable | type | lower_bound|upper_bound|value|dual
103 -----|-----|-----|-----|-----|-----|
104 sailco|ctCapacity_1|LINEAR|infinity
                                         40
                                                     |None |None
105 sailco|ctCapacity_2|LINEAR|infinity
                                         140
                                                     |None |None
106 sailco|ctCapacity_3|LINEAR|infinity
                                         140
                                                     INone INone
107 sailco|ctCapacity_4|LINEAR|infinity
                                         140
                                                     INone INone
                                                     |None |None
108 sailco|ctBoat_2
                      |LINEAR|60
                                         |60
                      |LINEAR|72
                                                     |None |None
109 sailco|ctBoat_3
                                         172
110 sailcolctBoat 4
                      ILINEAR 125
                                         125
                                                     INone INone
111 sailco|ctBoat_1
                      |LINEAR|30
                                         130
                                                     INone INone
112 sailco|OBJECTIVE |LINEAR|infinity
                                         |infinity
                                                     None | None
113
114 **Linear Expressions (Matrix Entries)**
115 index|Module|Row
                     |Column |Coefficient
116 ----|-----|-----
                                       -1-----
117 0
         |sailco|ctCapacity_1|regular_1 |1.0
118 1
         |sailco|ctCapacity_2|regular_2 |1.0
119 2
         |sailco|ctCapacity_3|regular_3 |1.0
120 3
         |sailco|ctCapacity_4|regular_4
121 1
         |sailco|ctBoat_2
                            |regular_2
                                       11.0
122 1
         |sailco|ctBoat_2
                            lextra_2
                                        11.0
123 1
         |sailco|ctBoat_2
                            |inventory_2|-1.0
124 0
         |sailco|ctBoat_2
                            |inventory_1|1.0
125 2
                            |regular_3 |1.0
         |sailco|ctBoat_3
126 2
         |sailco|ctBoat_3
                            |extra_3
                                        11.0
127 2
         |sailco|ctBoat 3
                            |inventory_3|-1.0
128 1
         |sailco|ctBoat_3
                            |inventory_2|1.0
129 3
                            |regular_4 |1.0
         |sailco|ctBoat_4
130 3
         |sailco|ctBoat_4
                            |extra_4
                                        11.0
```

File - generate_OSI

```
|sailco|ctBoat_4
131 3
                             |inventory_4|-1.0
132 2
         |sailco|ctBoat_4
                             |inventory_3|1.0
                             |regular_1 |1.0 |extra_1 |1.0
133 0
         |sailco|ctBoat_1
134 0
         |sailco|ctBoat_1
135 0
         |sailco|ctBoat_1
                             |inventory_1|-1.0
         |sailco|OBJECTIVE
                             |regular_1 |400.0
136 0
137 1
         |sailco|OBJECTIVE
                             |regular_2 |400.0
138 2
         |sailco|OBJECTIVE
                             |regular_3 |400.0
139 3
         |sailco|OBJECTIVE
                             |regular_4 |400.0
140 4
         |sailco|OBJECTIVE
                             |extra_1
                                         450.0
141 5
         |sailco|OBJECTIVE
                             |extra_2
                                         |450.0
142 6
         |sailco|OBJECTIVE
                             |extra_3
                                         |450.0
         |sailco|OBJECTIVE
143 7
                             |extra_4
                                        450.0
144 8
        |sailco|OBJECTIVE
                             |inventory_1|450.0
145 9
         |sailco|OBJECTIVE
                             |inventory_2|450.0
146 10
        |sailco|OBJECTIVE
                             |inventory_3|450.0
147 11
        |sailco|OBJECTIVE
                             |inventory_4|450.0
148
149 Process finished with exit code 0
150
```