In [2]:
```
from gamspy import (Container, Variable, Equation, Model, Set, Parameter, Su
import numpy as np
```

In [23]:
```
b = Container()

#SETS
suppliers = Set(b, 'suppliers', records=['1', '2', '3'])
valve_max = Parameter(b, 'valve_max', records=700)

#VARIABLES
acquire = Variable(b, "aquire", "positive", domain=[suppliers],description="
acquire.up = 700
obj = 5*acquire['1'] + 4*acquire['2'] + 3*acquire['3']

#EQUATIONS
large = Equation(b, name='large', type='regular')
large[:]= 0.4*acquire['1'] + 0.3*acquire['2'] + 0.2*acquire['3'] >= 500
medium = Equation(b, name='medium', type='regular')
medium[:]= 0.4*acquire['1'] + 0.35*acquire['2'] + 0.2*acquire['3'] >= 300
small = Equation(b, name='small', type='regular')
small[:]= 0.2*acquire['1'] + 0.35*acquire['2'] + 0.6*acquire['3'] >= 300

pigs = Model(b,
    name='pigs',
    equations=b.getEquations(),
    problem=Problem.LP,
    sense=Sense.MIN,
    objective=obj)
```

In [24]:
```
pigs.solve(options = Options(equation_listing_limit=100))
print("Objective Function Value: ",round(pigs.objective_value,4),"\n")
print("acquire: \n", acquire.records)
print("status: ", pigs.status)
print("solver status: ", pigs.solve_status)
print(pigs.getEquationListing())
```

```
Objective Function Value:  6450.0

acquire:
   suppliers  level  marginal  lower  upper  scale
0          1  700.0      -1.0    0.0  700.0    1.0
1          2  700.0      -0.5    0.0  700.0    1.0
2          3   50.0       0.0    0.0  700.0    1.0
status:  ModelStatus.OptimalGlobal
solver status:  SolveStatus.NormalCompletion
large..  0.4*aquire(1) + 0.3*aquire(2) + 0.2*aquire(3) =G= 500 ; (LHS = 0, I
NFES = 500 ****)
medium..  0.4*aquire(1) + 0.35*aquire(2) + 0.2*aquire(3) =G= 300 ; (LHS = 0,
INFES = 300 ****)
small..  0.2*aquire(1) + 0.35*aquire(2) + 0.6*aquire(3) =G= 300 ; (LHS = 0,
INFES = 300 ****)
pigs_objective..  5*aquire(1) + 4*aquire(2) + 3*aquire(3) - pigs_objective_v
ariable =E= 0 ; (LHS = 0)
```

In [ ]: