

```
In [1]: import sys, os
import docplex.mp
from docplex.mp.model import Model

path = 'D:\SISTEMAS\SEMESTRE-2020-2\Pesquisa Operacional\Lista1'
os.chdir(path)
```

```
In [2]: modelo = Model(name='Lista_1_Questao_8')
```

```
In [3]: X1 = modelo.continuous_var(name='X1')
X2 = modelo.continuous_var(name='X2')
```

```
In [5]: # Função Objetiva
modelo.minimize(4*X1 + 1*X2)
```

```
In [6]: # Restrições
modelo.add_constraint(X1 >= 0)
modelo.add_constraint(X2 >= 0)
modelo.add_constraint(-X1 + X2 >= 2)
modelo.add_constraint(X1 + X2 <= 8)
```

```
Out[6]: docplex.mp.LinearConstraint[(X1+X2,LE,8)]
```

```
In [7]: modelo.print_information()
```

```
Model: Lista_1_Questao_8
- number of variables: 2
  - binary=0, integer=0, continuous=2
- number of constraints: 4
  - linear=4
- parameters: defaults
- objective: minimize
- problem type is: LP
```

```
In [8]: otimizacao = modelo.solve()
modelo.print_solution()
```

```
objective: 2.000
X2=2.000
```

```
In [9]: modelo.parameters.lpmethod = 4
modelo.solve(url=None, key=None, log_output=True)
```

```
Version identifier: 20.1.0.0 | 2020-11-11 | 9bedb6d68
CPXPARAM_Read_DataCheck          1
CPXPARAM_LPMethod                4
Tried aggregator 1 time.
LP Presolve eliminated 4 rows and 2 columns.
All rows and columns eliminated.
Presolve time = 0.00 sec. (0.00 ticks)
Parallel mode: deterministic, using up to 4 threads for concurrent optimization:
* Starting dual Simplex on 1 thread...
* Starting primal Simplex on 1 thread...

Dual simplex solved model.
```

Total time on 4 threads = 0.02 sec. (0.00 ticks)

Out[9]: docplex.mp.solution.SolveSolution(obj=2,values={X2:2})

In [10]: `%notebook "D:\SISTEMAS\SEMESTRE-2020-2\Pesquisa Operacional\Lista1\Questao_8.ipynb"`