CompleteThat is a python package that solves the low rank matrix completion problem. Given a low rank matrix with partial entries the package solves an optimization problem to estimate the missing entries.

Mathematically, the package solves a relaxation (using the nuclear norm or the   
Frobenius norm of the objective matrix) of the following problem:

minimize\_{X} X

st. X(i,j) = M(i,j) \forall (i,j)\in \Omega,

where, M represents the data matrix and \Omega represents the set of p observed entries of M

Usage:

>>> from completethat import MatrixCompletion

>>> problem = MatrixCompletion(M, Omega)

>>> problem.complete\_it(algo\_name)

>>> X = problem.get\_matrix()

>>> out\_info = problem.get\_out() #Extrainformation (number of iterations, ect)