Guide for the **IPM.Boudjellal solver**

The **IPM.Boudjellal solver** is programmed to solve convex (linear) problems in standard form as follows:

$$\begin{cases} \min c^T x, \\ Ax = b, \\ x \geq 0, \end{cases}$$

where $A \in \mathbb{R}^{m \times n}$ $(rank(A) = m < n)$, $b \in \mathbb{R}^m$, $c, x \in \mathbb{R}^n$.
Its dual problem is

$$\begin{cases} \min b^T y, \\ A^T y + z - c = 0, \\ z \geq 0, y \in \mathbb{R}^m \end{cases}$$

x is the primal variable and (y, z) are the dual variables.
To run this solver, follow the following steps:

1. Run the **PrimaDualLP.m** program to find the initial point to start the algorithm.

2. Run the program **IPM.Boudjellal.m** to find the optimal solution of the algorithm.