

Math 404 Report#2

Submit <u>Matlab</u> implementations (or equivalent) of the following <u>Primal-Dual Interior Point</u> Methods:

- 1. Central Path with **fixed** step size (α) and centering parameter (σ) .
- 2. Central Path with <u>adaptive</u> step size (α) and centering parameter (σ).
- 3. Mehrotra Predictor-Corrector.
 - a. Apply your implementations on at least **three** case studies (you can pick your own or use some of the solved examples in lectures.)
 - b. Provide neat figures for each case study of the following:
 - i. Objective function reduction versus iteration.
 - ii. Center path.
 - iii. Complementary condition.

Compare your results with **Matlab built-in** function that uses **Mehrotra** algorithm.

Deadline: Sun Dec 6, 2020