

Numerical Optimization 2024 - Homework 7

Deadline: Wednesday, May 15, 15:30.

As we discussed in the lecture, in order to derive the KKT conditions, we need to assume some “constraint qualification” (CQ). Two prominent such conditions are linear independence constraint qualification (LICQ) and Mangasarian-Fromovitz constraint qualification (MFCQ), see Definitions 12.4 and 12.6 in the book, respectively. I will explain these concepts during the lecture on May 13.

Problem 1. Exercise 12.10 from the book (neither the LICQ nor the MFCQ).

Problem 2. Exercise 12.13 from the book (the MFCQ yes, the LICQ no).

Problem 3. Exercise 12.17 from the book (uniqueness of the multipliers under LICQ).