Computation, Problem Set #7, Interior Point Method, Newton's Method, and Quasi Newton

OSM Lab, Jan Ertl

Due Thursday, August 2 at 6:00pm

Do the following Exercises from the Brigham Young University Applied Mathematics and Computational Emphasis (ACME) Python labs Humpherys and Jarvis (2017) and from Richard Evans' notes.

1. **Exercises from ACME: Interior Point 1, Linear Programs lab.** Do problems 1 through 5 from Interior Point 1, Line Search Methods lab. You will need to download the simdata.txt file, which is saved in the course repository.

2. **Exercises from ACME: Interior Point 2, Quadratic Programs lab.** Do problems 1 through 4 from Interior Point 2, Quadratic Programs lab. You will need to download the portfolio.txt file, which is saved in the course repository. You may also find some help on Problem 4 using the CVXOPT package in the CVXOPT Intro lab.

3. **Exercises from ACME: Newton and Quasi Newton Method lab.** Do problems 1 through 4 from Newton and Quasi Newton Method lab.

References

Humpherys, Jeffrey and Tyler Jarvis, "Computational Labs for Foundations of Applied Mathematics, Volumes I and II," 2017.