Computation, Problem Set #3, Decomposition and Speed

OSM Lab, Justin Gardiner

Due Tuesday, July 11 at 8:00am

Do the following Exercises from the Brigham Young University Applied Mathematics and Computational Emphasis (ACME) Python labs Humpherys and Jarvis (2017) and from QuantEcon.org.

1. **Exercises from ACME: QR Decomp 1 lab.** Do problems 1 through 5 from QR Decomp 1 lab.

2. **Exercises from ACME: QR Decomp 2 lab.** Do problems 1 through 6 from QR Decomp 2 lab. You will need to download the housing.npy and ellipse.npy files, which are saved in the course repository.

3. **Exercises from ACME: SVD Image Compress lab.** Do problems 1 through 5 from SVD Image Compress lab. You will need to download the hubble.jpg file, which is saved in the course repository.

4. **Exercises from ACME: Drazin Inverse lab.** Do problems 1 through 5 from Drazin Inverse lab. You will need to download the social_network.csv file, which is saved in the course repository.

5. **Exercise from QuantEcon: Need for Speed lab.** Do exercise 1 from Need for Speed lab.

References

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