DATA 1010
In-class exercises
Samuel S. Watson
31 October 2018

Problem 1

Suppose that $\mathbf{X}$ is a random vector with mean zero and covariance matrix Σ. What is the covariance matrix of $A\mathbf{X}$, where A is a square matrix?

Problem 2

Suppose that X is Bernoulli with $p = 0.8$ and that Y is independent of X and normal with mean zero and variance 10^{-3}. Describe the PDF of $X + Y$.