DATA130004: Homework 6

Due in class on December 7, 2017

1. Verify the counterexample in Midterm Exam: let X and W be independent variables, where X follows a standard normal distribution, and W is a Rademacher random variable, i.e., $W = 1$ with probability 0.5 and $W = -1$ with probability 0.5. Define $Y = WX$. Show that

   (a) X and Y are uncorrelated;

   (b) both X and Y have the same normal distribution; and

   (c) X and Y are not independent.

2. Exercises 6.6, 6.9 and 6.10.

3. Project 6.D