Quiz

$\mathrm{SDS}~385$

1. Is independence of two random variables the same as uncorrelated? If not, what is the difference?

2. What is the difference between clustering and classification?

3. How does the K-nearest neighbor algorithm for classification work?

4. Write down the definition of the largest singular value of a matrix as an optimization problem.

5. Are the eigenvalues and singular values of a symmetric square matrix the same? If not, what is their relationship?

6. If f is convex, and X is a random variable, then how are f(E[X]) and E[f(X)] related?

7. Write down the definition of a symmetric positive-semi definite matrix. What do you know about its eigenvalues?