Matt's Exercises

Due never!

Problem 1. (Exercise 1.1)

Imagine you have n data points. Define d(x,y) to be the distance between x and y. d(x,y) = 1 if x and y are different, and d(x,y) = 0 if x and y are the same.

What is the smallest dimension k such that the data points can be embedded in $\mathbb{R}^k$?

Problem 2. (Exercise 1.2)

Can you create a mapping of the numbers between 0 and 1 to the real numbers such that the mapping is continuous?