

09-11

CS 53, Fall 2017

Due Wednesday, September 13 at 2:59 pm

All human-graded:

Problems 0.8.10 and 1.7.12 in the textbook, plus the following problem (intended to be easy):


Dictionary representation of vectors

Problem 1: Recall the bag-of-words representation of documents.

1. What is the dictionary representation of the function interpretation of the vector corresponding to the document "TO CONDUCT THE PLAY IS CONDUCT TO PLAY"?^a
2. What is the co-domain of the function?

^aFor zero extra credit points, what is the meaning of "Buffalo buffalo Buffalo buffalo buffalo buffalo Buffalo buffalo"?

Dictionary representation of vectors

Problem 2: The favicon for `csmatrix.org` is . It is a 16×16 color image. For the purpose of this problem, ignore the alpha channel (if you happen to know what that is). Each pixel's color is represented by a triple of numbers. We want a vector that represents this image. The vector is in turn represented by a function. What is the domain of this function? (There are multiple correct answers.)