

L11 PROBLEM 1-1 (7/7 points)

For the following problems, decide whether it would be better to perform supervised or unsupervised learning given the data.

100,000 emails are read and marked as spam or not spam, depending on some metrics measured on their content(keywords, length, etc). We want to determine what a new email will be marked as.

- ☒ Supervised ✓
- ☐ Unsupervised

A junkyard has 500 objects with 2 and 4 wheels. We want to separate the objects into 4 different groups.

- ☐ Supervised
- ☒ Unsupervised ✓

A group of 1000 students are asked for a sample of their handwriting. Researchers make pairs of (handwritten text, typed text). Given a new handwriting sample from a new student, we want to determine what the typed version of the handwriting sample would be.

- ☒ Supervised ✓
- ☐ Unsupervised

Given a set of t-shirts, we want to organize them in 3 different piles.

- ☐ Supervised
- ☒ Unsupervised ✓

Given a greenhouse full of plants, we want to organize them so that they can be given away to novice, intermediate, and expert plant handlers.

- ☐ Supervised
- ☒ Unsupervised ✓

Given a set of colored points on an x-y axis, we want to place a new point on the plot, knowing its color.

- ☒ Supervised ✓
- ☐ Unsupervised

A school documents the age, grade, score on a math standardized test, and score on a writing standardized test for every student. A new student comes to the school and we want to decide what grade they should be placed in.

- ☒ Supervised ✓
- ☐ Unsupervised

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L11 PROBLEM 1-2 (1/1 point)

For the following question, check the boxes that correspond to the rules that we may be able to learn. Consider the following set of 6 emails, which classify the email as spam or not. Which of the following rules might we learn? Check all that apply.

Spam or Not Spam?	Spam	Spam	Spam	Not spam	Not spam	Not spam
Words in Email	4	4	30	35	50	10
Flagged Words	CASH, BUY, password	cash, free, rolex	cash free, call	only, cancel, sign	free, check, weight	quote, cheap, website

- ☒ Emails containing both flagged words "cash" and "free" are marked "spam". ✓
- ☐ Emails without the flagged word "free" are marked "not spam".
- ☐ Emails with an even number of words are marked "spam".
- ☐ Emails with less than 31 words are marked "spam".
- ☒ Emails containing at least one flagged word in all capital letters are marked "spam". ✓

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