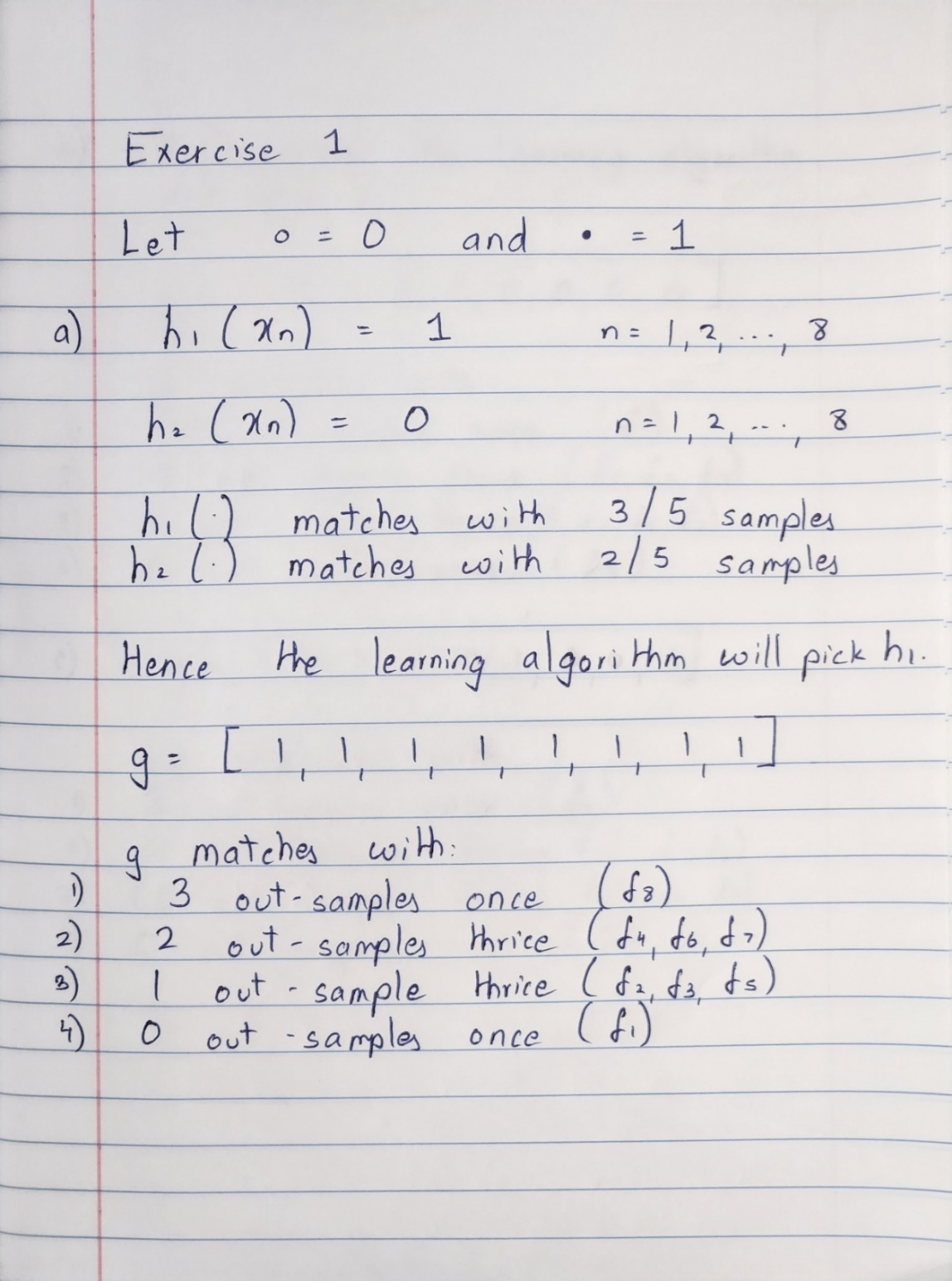
ECE 50024

Homework 6

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## Exercise 1:



Text, letter

Description automatically generated

## Exercise 2:

1. As all the three coins we pick are fair coins, the probability that we get a head on each of them is same and is equal to 0.5.
2. Histograms of the random variables

Chart, histogram

Description automatically generated

Chart, histogram

Description automatically generated

Chart, bar chart

Description automatically generated

1. Hoeffding’s inequality for the 3 coins

Chart, line chart

Description automatically generated

Note: The curves for and coincide.

1. The coins and follow the Hoeffding bound, while does not. This is because the coins and are selected before we look at the data, while is selected after we have the data. Hoeffding inequality is valid only if we apply it before we look at the data.

# 

# APPENDIX