1. (100 pts.) Consider the examples in Exercise 20.15. Use examples 3 through 12 as the training data, and use examples 1, 2, 13, and 14 as the test data. Do the following exercises.

   (a) (50 pts.) Using information gain, find a decision tree for the training data, and determine its accuracy on the test data.

   (b) (50 pts.) Use the nearest neighbor algorithm to classify the test data based on the training data.