

# 6.441 Transmission of Information

## Problem Set 3

Spring 2003

Due date: March 6

### **Problem 1**

Consider a  $D$ -ary alphabet  $0, 1, \dots, D - 1$ . Let the weight of a codeword be the sum of the values of all the letters in the codeword. Give an algorithm that establishes a Huffman code that minimizes the mean weight of the codewords.

**Problem 2** Problem 3.5 in Cover and Thomas.

**Problem 3** Problem 5.7 in Cover and Thomas.

**Problem 4** Problem 5.9 in Cover and Thomas.

**Problem 5** Problem 5.17 in Cover and Thomas.

**Problem 5** Problem 5.22 in Cover and Thomas.