Pries: M460 - Information and Coding Theory, Spring 2019
Handout 1W: encoding schemes

1. What are similarities/differences between the ASCII code and the Morse code? What is an advantage/drawback of each of them?

2. What is the problem with this code: $C = \{N = 0, O = 01, Y = 001\}$?
   Make a change to the encoding scheme which fixes this problem.

3. Which code is better for transmitting time-urgent data across a slow channel:

   $C_1 = \{a = 0, b = 10, c = 110, d = 1110, \ldots\}$ or $C_2 = \{a = 0, b = 01, c = 011, d = 0111, \ldots\}$?

4. In a BLOCK binary encoding scheme, all symbols have the same length n and entries in $\mathbb{Z}/2\mathbb{Z}$. What is the smallest possible length of a block binary encoding scheme with 34 letters? Find a formula for the smallest possible length of a block binary encoding scheme with N letters.

Homework 1: Due Monday 1/28.

1. Read Hall Chapter 1. Problem 1.3.1.
2. Read Betten et al Section 1.1. Problems E.1.1.2 and E.1.1.3 (part 1).
3. Problem about ISBN codes and linear algebra.