**U. Mass Lowell**
**Department of Electrical and Computer Engineering**
**Coding and Information Theory**
**Professor Jay Weitzen**
**Computer Problem I: Cyclic Redundancy Checking**

Let a 96 bit message be constructed of alternating 1's and zeros, beginning with 1 starting from the left. Write a computer program to compute the CRC-CCITT-16 checksum using the generator polynomial from the book.

b. Append the checksum to the message to form a 112 bit message. Write a computer program to compute the checksum and show that it is zero

c. Let an error sequence be formed by e(t) where e(t) is 1 for bits 9-16 (8 bit error sequence). Calculate the remainder and say whether the CRC caught the error.

d. Let an error sequence be formed by e(t) where e(t) is 1 for the last 8 bits (104-112) of the message. Calculate the remainder

e. Let an error sequence be formed by e(t) where e(t) is 1 for bits 8,16,24,32,and 100. Calculate the remainder

What to hand in: your code, and the answers for each of the sections, due 3 weeks.