

Homework 3

Problem 1

10 points

Is it possible to find an error detecting code that encodes messages of length up to N bits and detects all errors regardless of the number of bits in error?

Problem 2

40 points

Assume that we are using CRC with check polynomial $x^4 + x^3 + 1$. How would we be encoding the message 1011011101111.?

Problem 3

50 points

We are using the 11+4 Hamming code from Slide 89 of the presentation. How do you encode the message 10101010101?
Assume you receive 101011101010101. Is there an error and if there is, how would you correct it?