ENR145 Assignment #4: Recap of the recap of the hamming code

Due: 2/9/25 11:30 am

Please review the in-class test again and provide your answer in slides. Try to type and draw everything digitally, no hand-writing. For tables, pre-filling in spreadsheets, then copy-paste the sheets will work great.

Task 1)

I might or might not have got my **parity checks** wrong, help me find my error.

Hint: there's nothing wrong with my **data bits**, only the parity bits.

1	1	1	0
0	1	0	1
1	1	0	1
0	1	0	1

Task 2) Help me find which 1 bit get flipped. Show me the step of: i) how you generating the error code; ii) the corresponding brilliant deduction:

1	0	1	0
1	1	1	0
0	0	0	1
1	0	1	1

Task 3)

If I type this in vanilla python (Google Colab), what will be the answer? **Show me your steps:**

3.1) 0xF^0b1010

3.2) 2&6

Task 4)

I have 1000 bits to be Extended Hamming Coded.

Show me **all the binary index** of the parity bits you needed for this task.

Hint: when we are doing Hamming (16,11), we need 5 parity bits, and the binary index of the total parity check (P0) is: 0000.