

## Assignment #5 5.1, 5.9

- [A] Write down a generator matrix and a parity-check matrix for the ternary Hamming code of length  $\frac{3^2-1}{3-1}=4$ .
- [B] Write down a generator matrix and a parity-check matrix for the binary Hamming code of length  $2^4-1=15$ .
- [C] Calculate the spherical bounds (both of them), the Plotkin Bound, and the Singleton bound for  $A_2(5, 3)$ . Use these to construct an optimal binary code of length=5,  $d=3$ .

Exam 2 covers Chapters 4, 5, 7-part 1.

Tentatively scheduled for Wednesday 3/22