Final Project

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Practical Codes for Lossless Distributed Source Coding (2 Sources, 1 Decoder): Implement the recipe for lossless distributed source coding of two binary sources described in the first set of lecture notes using any two of the following types of channel codes

- Hamming codes
- Convolutional Codes
- Reed-Solomon codes
- turbo codes
- regular low density parity check codes
- irregular low density parity check codes with optimized degree distribution

Measure the error rate $\mathbb{P}[\hat{\mathbf{x}} \neq \mathbf{x}]$ with numerical simulations, and plot it as a function of the rate of the channel code. Compare the compression rates you can achieve with the associated entropies/conditional entropies. Repeat for several cross over probabilities c and for several p.

Extra credit will be given for doing more than two of the types of channel codes discussed.