PROBLEM 1. Implement the basic parallel flipping algorithm for the $(4,5)$-regular ensemble of length $n = 1000$ and the BSC with parameter ϵ. Please hand in, (i) a printout of the code, (ii) a plot of the error probability as a function of the channel parameter.

Bonus: Estimate the threshold of this combination by looking at large blocklengths and determining the largest channel paramter for which the decoder succeeds with "high probability."