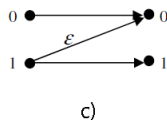
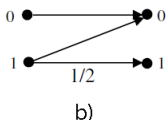
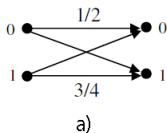


Boris Kudryashov

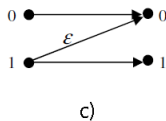
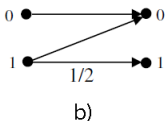
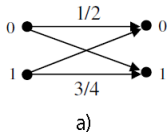
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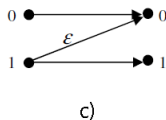
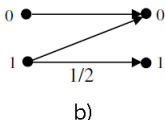
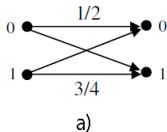
- 1 For the channel at pic.a, with a uniform input alphabet X , calculate the mutual information $I(x; y)$, $x \in X$, $y \in Y$ and the average mutual information $I(X; Y)$. Explain the results.



- 2 For the channel at pic.b, draw a plot of dependence between $I(X; Y)$ and $p(x = 1) = p$ without doing calculations and without using properties of mutual information.



- 3 For the channel at pic.5c, draw a plot mutual information as a functions of ε , assuming uniform alphabet, without doing calculations and without using properties of mutual information.



4 For channels at pic.a-f, calculate the channel throughput.

