

CORR 2001-05

“All-One” Blocks in a Binary String

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Abstract We study the distribution of “all-one” blocks in a binary string. More specifically, we compute the expected number of all-one blocks and the expected length of an all-one block in a randomly chosen binary string. This is done under two probability distributions – the uniform distribution and the Kolmogorov complexity based universal distribution.

Keywords combinatorial problems, binary strings, all-one block, uniform distribution, Kolmogorov complexity, universal distribution.