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Ilona Yershov* (ilonayershov@gmail.com). *Quest for the constant in the expected length of longest common subsequences.* Preliminary report.

The longest common subsequence (LCS) of two i.i.d. binary strings A and B is the longest string which is a subsequence of both A and B . The problem of finding the expected length of LCS has been in the literature for at least 25 years. It is well known that the expected length of LCS is asymptotic to $n\Gamma$, where Γ is some constant and n is the length of the strings. Determining Γ appears to be quite difficult and the best current bounds known to us are $0.788071 \leq \Gamma \leq 0.826280$ (George Lueker, 2005). Recently many algorithmic and iterative approaches have been suggested for determining lower and upper bounds on Γ . We explore a probabilistic approach for finding Γ . (Received September 11, 2007)