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Title: The least nonzero digit of $n!$ in base 12

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We positively answer a question raised by the first author and prove that, for $1 \leq a \leq 11$, the sequence $\{n : \ell_{12}(n!) = a\}$ has an asymptotic density, which is $1/2$ if $a = 4$ or $a = 8$ and 0 otherwise; here $\ell_b(m)$ denotes the least nonzero digit of m in base b .

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