A note on sooner and later waiting time distribution of runs of ones or zeros in a Bernoulli sequence.

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In this talk, Consider an infinite sequence of Bernoulli trials $\{X_i | i = 1, 2, \ldots\}$. Let W(k) denote the waiting time, the number of trials needed, to get either consecutive k ones or k zeros for the first time. The probability distribution of W(k) is derived for both independent and homogeneous two-state Markovian Bernoulli trials, using a generalized Fibonacci sequence of order k. For independent Bernoulli trials, a special case of symmetric trial with p = 1/2 is considered.