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Abstract. Proposed by Scott N. Armstrong and Christopher J. Hillar. Let \( \lambda_1, \ldots, \lambda_k \) be nonnegative real numbers summing to 1 and let \( a_1, \ldots, a_k \in \mathbb{C} \). For \( n > k \), define \( a_n = \lambda_1 a_{n-1} + \cdots + \lambda_k a_{n-k} \). If there exist two consecutive \( \lambda_i, \lambda_{i+1} \) that are both nonzero, prove that \( \lim_{n \to \infty} a_n \) exists and determine its value.

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