

Clark Kimberling

Partial Sums of Generating Functions as Polynomial Sequences,
Fibonacci Quart. **48** (2010), no. 4, 327–334

Abstract

Partial sum polynomials are defined from a generating function. The generating function and the partial sum polynomials of even degree can be represented as a certain kind of linear combination of squares. Of particular interest are the coefficients b_k in such sums. Examples of partial sum polynomials include Fibonacci polynomials of the 2nd kind, defined by $P_n(z) = z^2P_{n-2}(z) + zP_{n-1}(z) + 1$, with $P_0(z) = 1$ and $P_1(z) = 1 + z$.