Tribonacci numbers via recurrent determinants of four-diagonal matrix

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Among the several generalizations of Fibonacci numbers, some of the best known is the *tribonacci sequence* $\{t_n\}_{n\geq 0}$. The tribonacci numbers are defined by the recurrence $t_n = t_{n-1} + t_{n-2} + t_{n-3}$, with initial values $t_0 = 1$, $t_1 = 1$, $t_2 = 1$; see entry A000703 in [3] for more information and details.

In this note, we present two formulas expressing tribonacci numbers t_n with even and odd subscripts via recurrent determinants of four-diagonal matrix of order n. Our approach is similar to spirit in [1, 2].

Références

[1] T. Goy, *Fibonacci and Lucas numbers via the determinants of tridiagonal matrix*, Notes on Number Theory and Discrete Mathematics, 24(1) (2018), p. 103-108.

[2] T. Goy, *Horadam sequence through recurrent determinants of tridiagonal matrix*, Kragujevac Journal of Mathematics, 42(4) (2018), p. 527-532.

[3] N. J. A. Sloane (ed.), *The On-Line Encyclopedia of Integer Sequences*. Published electronically at http ://oeis. org.