Fibonomials and powers of Fibonacci sequences

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Abstract

If in the Binomial Coefficient $\binom{n}{k} = \frac{n(n-1)\cdots(n-k+1)}{(1)(2)\cdots(k)}$ we replace the sequence n by the sequence F_n of Fibonacci numbers, what we get is the so-called Fibonomial Coefficient $\binom{n}{k}_F = \frac{F_n F_{n-1}\cdots F_{n-k+1}}{F_1 F_2 \cdots F_k}$. In this talk we will show some recent results on Fibonomials we obtained by using the tool known as Z-Transform (of sequences), which is related to generating functions. These results generalize some other ones appeared in 1962, and they are contained in the papers:

(1) C. Pita, *More on Fibonomials,* Proceedings of the XIV International Conference on Fibonacci Numbers, Morelia, Mexico, 2010. To appear.

(2) C. Pita, *On s-Fibonomials,* Journal of Integer Sequences, Article 11.3.7, Vol. 14 (2011). http://www.cs.uwaterloo.ca/journals/JIS/VOL14/Pita/pita12.pdf