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Abstract

The coupled Fibonacci sequences are new direction of generalization of Fibonacci sequence. The concept of coupled Fibonacci sequence was first introduced by Atanassov, K. T. in 1985. He deliberated multiplicative coupled Fibonacci sequences of second order in 1995.

Multiplicative coupled Fibonacci sequences are less known and popularized now days.

Generalized Multiplicative Coupled Fibonacci sequences of second order are defined by the recurrence relations $\alpha_{n+2} = p\beta_{n+1}q\beta_n$ and $\beta_{n+2} = r\alpha_{n+1}s\alpha_n$, $n \geq 0$ with initial conditions $\alpha_0 = a$, $\beta_0 = b$

$\alpha_1 = c$, $\beta_1 = d$

where

p, q, r and s

are constants.

α are real numbers. In this paper, sum identities of generalized multiplicative coupled Fibonacci sequences of second order are presented and derived.

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Keywords

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