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Sequence balancing and cobalancing numbers,
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Abstract

The concept of balancing and cobalancing numbers is generalized to an arbitrary sequence; thereby sequence balancing numbers and sequence cobalancing numbers are introduced and defined. It is proved that there does not exist any sequence balancing number in the Fibonacci sequence and the only sequence cobalancing number in the Fibonacci sequence is $F_2 = 1$. Higher order balancing and cobalancing numbers are introduced. A result on nonexistence of third order balancing and cobalancing numbers is proved. A conjecture on the nonexistence of higher order balancing and cobalancing numbers is also stated at the end.