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Labeled Fibonacci Trees,
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Abstract

The study describes a class of integer labelings of the Fibonacci tree, the tree of descent introduced by Fibonacci. In these labelings, Fibonacci sequences appear along ascending branches of the tree, and it is shown that the labels at any level are consecutive integers. The set of labeled trees is a commutative group isomorphic to \mathbb{Z}^2 , and is endowed with an order relation. Properties of the Wythoff array are recovered as a special instance, and further properties of the labeled Fibonacci trees are described. These trees can be viewed as generalizations of the Wythoff array.