

Ordered trees, the uplift principle and the Riordan group

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Abstract

For a large class of ordered trees it's possible to take results at the root and move them to an arbitrary vertex (the mutator) or to a leaf of the tree. This is the uplift principle. If you also sort by height and record the results in matrix form you end up with one or more elements of a group of infinite lower triangular matrices called the Riordan group. The main tools used are generating functions, matrix multiplication, and pictures.

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