

# Riordan arrays

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A  $(p(x), q(x))$  Riordan array, where  $p(x) = p_0 + p_1x + p_2x^2 + \dots$ ,  $q(x) = q_1x + q_2x^2 + \dots$ , is an infinite lower triangular matrix whose  $(n \geq 0, k \geq 0)$ th entry is the coefficient of  $x^n$  in  $p(x)(q(x))^k$ . We will discuss basic properties of Riordan arrays, including their group structure, along with some applications that include obtaining identities and analysing lattice paths.