Algebraic structures, series, and enumeration

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Résumé

Endowing families of combinatorial objects (like words, permutations, or trees) with operations (like concatenation, shuffle, or grafting) leads to the construction of algebraic structures. The algebraic study of these structures highlights combinatorial properties of their underlying combinatorial objects. We present these ideas applied to many examples, including generalizations of formal power series with the aim to enumerate families of combinatorial objects.

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