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On dual equivalence and Schur positivity

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We define dual equivalence for any collection of combinatorial objects endowed with a descent set, and we show that giving a dual equivalence establishes the symmetry and Schur positivity of the quasi-symmetric generating function. We give an explicit formula for the Schur expansion of the generating function in terms of distinguished elements of the dual equivalence classes. These concepts and proofs simplify in the ubiquitous case when the collection of objects has a sufficiently nice reading word.

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