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Richard P. Stanley* (rstan@math.mit.edu), Department of Mathematics, M.I.T., Cambridge, MA 02139. *Reduced decompositions.*

Let s_i denote the adjacent transposition $(i, i+1) \in \mathfrak{S}_n$, $1 \leq i \leq n-1$. A *reduced decomposition* of a permutation $w \in \mathfrak{S}_n$ is a sequence (b_1, \dots, b_p) for which $w = s_{b_1} \cdots s_{b_p}$ and p is minimal. A basic problem is to determine the number $r(w)$ of reduced decompositions of w . This problem leads to a rich theory involving Young tableaux, symmetric functions, a version of the RSK-algorithm, Schubert polynomials, Schur and Weyl modules, flag varieties, etc. (Received August 26, 2009)