

The Bruhat Order and $(0, 1)$ -Matrices

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The Bruhat order is a fundamental order on the symmetric group S_n of permutations of $\{1, 2, \dots, n\}$, so on permutation matrices of order n . More generally, there is a Bruhat order for Coxeter groups, of which S_n is an example. After a a bit of a tutorial on this order, we shall consider an extension of it to $(0, 1)$ -matrices with prescribed row and column sum vectors, and more generally to nonnegative (integral) matrices with prescribed row and column sum vectors.