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A POLYNOMIAL BOUND OF THE NUMBER OF MAXIMAL SYSTEMS OF IMPRIMITIVITY OF A
FINITE TRANSITIVE PERMUTATION GROUP

We introduce some standard definitions in the context of transitive permutation groups and we give a very gentle introduction to the concept of crows of a finite group.

Using these bits of knowledge we sketch how to prove that there exists a constant a such that a transitive permutation group of degree n has at most $an^{3/2}$ maximal systems of imprimitivity. When G is soluble, generalizing a classic result of Tim Wall, we show that a much stronger bound holds, that is, one can prove that a soluble transitive permutation group of degree $n \geq 2$ has at most $n - 1$ maximal systems of imprimitivity.