

عنوان مقاله:

On Graham Higman's famous PORC paper

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خلاصه مقاله:

We investigate Graham Higman's paper Enumerating p -groups, II, in which he formulated his famous PORC conjecture. We are able to simplify some of the theory. In particular, Higman's paper contains five pages of homological algebra which he uses in his proof that the number of solutions in a finite field to a finite set of monomial equations is PORC. It turns out that the homological algebra is just razzle dazzle, and can all be replaced by the single observation that if you write the equations as the rows of a matrix then the number of solutions is the product of the elementary divisors in the Smith normal form of the matrix. We obtain the PORC formulae for the number of r -generator groups of p -class two for $r \leq 6$. In addition, we obtain the PORC formula for the number of p -class two groups of order $p^{\{8\}}$.

کلمات کلیدی:

Enumerating p -groups, PORC conjecture, Graham Higman

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