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Conjugacy growth of finitely generated groups

M. Hull, D. Osin

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We show that every non-decreasing function $f\colon \mathbb N\to \mathbb N$ bounded from above by a^n for some $a\ge 1$ can be realized (up to a natural equivalence) as the conjugacy growth function of a finitely generated group. We also construct a finitely generated group G and a subgroup $H\le G$ of index 2 such that H has only 2 conjugacy classes while the conjugacy growth of G is exponential. In particular, conjugacy growth is not a quasi-isometry invariant.

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