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Casey M. Pinckney* (pinckney@math.colostate.edu). *Independence Complexes of Finite Groups.*

Certain problems involving groups are made easier by appropriate choices of generators. Thus understanding generating sets is of interest in group theory. Our goal is to describe minimal generating sets for certain finite groups in a visual way. We will explore some interesting combinatorics that arises from this view. More specifically, let G be a finite group. We define an independent set of G to be a collection of group elements that is a minimal generating set for some subgroup of G . These independent sets form a simplicial complex (called the Independence Complex) whose vertices are elements of G and whose faces of size k correspond to independent sets with k generators. We describe the structure and combinatorics of the resulting simplicial complex. (Received August 14, 2019)