ENUMERATING LARGE ORBITS AND DIRECT CONDENSATION

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Abstract. We describe a new algorithm for *direct condensation*, which is a tool in computational representation theory. The crucial point for this is the enumeration of very large orbits for a group acting on some set. We present a variation of the standard orbit enumeration algorithm that reduces the amount of storage needed and behaves well under parallelization. For the special case of matrices acting on a finite vector space an efficient implementation is described. This allows us to use condensation methods for considerably larger permutation representations than could be handled before.