

# An algorithm for constructing all supercharacter theories of a finite group\*

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## Abstract

In 2008, Diaconis and Isaacs introduced the notion of a supercharacter theory of a finite group in which supercharacters replace with irreducible characters and superclasses by conjugacy classes. In this paper, we introduce an algorithm for constructing supercharacter theories of a finite group by which all supercharacter theories of groups containing up to 14 conjugacy classes are calculated.

*Keywords:* Supercharacter theory, superclass, conjugacy class, irreducible character.

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# Algoritem za konstruiranje vseh nadkarakterskih teorij končne grupe\*

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## Povzetek

Leta 2008 sta Diaconis in Isaacs vpeljala pojem nadkarakterske teorije končne grupe, v kateri so nadkarakterji zamenjani z ireducibilnimi karakterji, nadrazredi pa z odseki. V tem članku predstavimo algoritem za konstruiranje nadkarakterskih teorij končne grupe, s pomočjo katerega izračunamo vse nadkarakterske teorije grup, ki vsebujejo največ 14 odsekov.

*Ključne besede: Nadkarakterska teorija, nadrazred, odsek, ireducibilni karakter.*

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