

Ordering block designs : gray codes, universal cycles and configuration orderings

Dewar, Megan, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20419594&lokasi=lokal>

Abstrak

The study of combinatorial block designs is a vibrant area of combinatorial mathematics with connections to finite geometries, graph theory, coding theory and statistics. The practice of ordering combinatorial objects can trace its roots to bell ringing which originated in 17th century England, but only emerged as a significant modern research area with the work of F. Gray and N. de Bruijn. The book begins with background material on combinatorial block designs and combinatorial orderings, including Gray codes -- the most common and well-studied combinatorial ordering concept -- and universal cycles. The central chapter discusses how ordering concepts can be applied to block designs, with definitions from existing (configuration orderings) and new (Gray codes and universal cycles for designs) research. Two chapters are devoted to a survey of results in the field, including illustrative proofs and examples. The book concludes with a discussion of connections to a broad range of applications in computer science, engineering and statistics.