Mathematics > Combinatorics

Some Quotients of the Boolean Lattice are Symmetric Chain Orders

Dwight Duffus, Jeremy McKibben-Sanders, Kyle Thayer

R. Canfield has conjectured that for all subgroups G of the automorphism group of the Boolean lattice B(n) (which can be regarded as the symmetric group S(n)) the quotient order B(n)/G is a symmetric chain order. We provide a straightforward proof of a generalization of a result of K. K. Jordan: namely, B(n)/G is an SCO whenever G is generated by powers of disjoint cycles. The symmetric chain decompositions of Greene and Kleitman provide the basis for partitions of these quotients.

Comments:	The significant changes from the first version are: inclusion of Theorem 3 and Corollary 1, with the proof of the former in Section 5. Small corrections and rewordings have been done as well
Subjects:	**Combinatorics (math.CO)**
MSC classes:	06A07, 05E18
Cite as:	**arXiv:1107.1098** [math.CO]
	(or **arXiv:1107.1098v2** [math.CO] for this version)

Submission history

From: Dwight Duffus [view email]
[v1] Wed, 6 Jul 2011 11:21:29 GMT (10kb)
[v2] Fri, 26 Aug 2011 15:21:02 GMT (12kb)

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