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Kelly Kross Jordan* (krossk@math.sc.edu), Department of Mathematics, University of SC, Columbia, SC 29208, and **J. Griggs**. *The Necklace Poset as a Symmetric Chain Order*. Preliminary report.

Define by N_k the quotient poset of the Boolean lattice, B_n , under the relation “equivalence under rotation.” Griggs, Killian, and Savage proved that N_p is a symmetric chain order for prime p . In this paper, we settle the question of whether this poset is a symmetric chain order for all k by providing an algorithm that produces a symmetric chain decomposition. We accomplish this by modifying the idea of parenthesis matching from Greene and Kleitman. This allows us to take appropriate “middles” of the chains of a subset of the Greene- Kleitman SCD for B_n . We also prove additional properties of the resulting SCD and show that this settles some related conjectures. (Received July 23, 2007)