Algebra Seminar

Gray code and loopless algorithms for the symmetric groups and the reflection groups

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Conway, Sloane and Wilks prove the existence of a Hamiltonian circuit (Gray code) for the Cayley graphs of the infinite families of reflection groups A_n (=S_{n+1}), B_n and C_n. This talk will first discuss the notions of Gray codes and looples algorithms, with examples. We then present various Gray codes for the symmetric groups S_n. Lastly, we describe loopless algorithms which generate specific Gray codes for the above reflection groups.

Monday, October 10, 2005, 1:40 – 2:30 pm,
Wachman 617