
0774.05002**Chen, William Y.C.; Stanley, Richard P.****Derangements on the n -cube.** (English)

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The 2^n vertices of the n -cube Q_n are n -tuples of 0's and 1's. The vertices of a k -subcube G_k have constant entries in $n - k$ positions. A symmetry w of Q_n fixes G_k if the image of any vertex of G_k is still a vertex of G_k . If w fixes no k -subcube then w is a k -derangement; otherwise w is a k -rearrangement. The authors establish a necessary and sufficient condition for a symmetry of Q_n to have a fixed k -subcube. They also find a way to compute the generating function for the number of k -rearrangements on Q_n .

*W.Moser (Montreal)**Keywords* : n -cube; derangement; rearrangements; symmetry; generating function*Classification* :

- *05A05 Combinatorial choice problems
- 05A17 Partitions of integres (combinatorics)
- 05A15 Combinatorial enumeration problems
- 05E99 Algebraic combinatorics

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