Problem of the Week-4: Latin Squares

An $n \times n$ matrix is called a *Latin square* if each of the integers $1, 2, \ldots, n$ occurs exactly once in each row and column. Find the number of distinct 4×4 Latin squares. Carefully explain/justify your answer.

Posting Date 2/21/09. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 (e-mail or hard-copy, but hard copy submissions must include a time stamp) by 4 pm on 3/20/09.