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Packing posets in a family of subsets. Preliminary report.

We are interested in maximizing the number of pairwise unrelated embeddings of a poset P in the family of all subsets of $[n]$. For instance, Sperner showed that when P is one element, $\binom{n}{\lfloor n/2 \rfloor}$ is the maximum number of embeddings of P . Griggs, Stahl, and Trotter have shown that when P is a chain on k elements, $\frac{1}{2^{k-1}} \binom{n}{\lfloor n/2 \rfloor}$ is asymptotically the maximum number of copies of P . We prove that for any P the maximum number of unrelated copies of P is asymptotic to a constant times $\binom{n}{\lfloor n/2 \rfloor}$. Moreover, the constant has the form $1/c(P)$, where $c(P)$ is an integer related to representing P by subsets. (Received August 08, 2013)