Let $A = \{a_1, \ldots, a_n\}$ and $S(A)$ be a set of some subsets $D \subset A$ such that

- each subset $D \in S(A)$ contains at most $n - 1$ elements
- each element of $A$ belongs to exactly 4 distinct subsets
- any unordered pair of distinct elements $a_i, a_j \in A$ belongs to exactly one subset $D$.

Determine the maximal possible value of $n$. 

**Problem Of The Month**

**Term:** July-August 2011