

Problem 7 (due Monday, May 11)

Let S be a finite set with n elements. What is the largest possible number k such that one can choose k non-empty subsets of S so that for any two of these subsets, either they are disjoint or one is contained in the other.

This problem was solved by only one participant: Yuqiao Huang. The answer to the problem is $2n-1$. Both our original solution and Yuqiao's solution prove this by induction on n , but the inductive arguments are different. Detailed solutions are discussed in the following link [Solution](#)

From:

<http://www2.math.binghamton.edu/> - **Binghamton University Department of Mathematical Sciences**

Permanent link:

<http://www2.math.binghamton.edu/p/pow/problem7>

Last update: **2020/05/11 18:49**

