

Here is another short project.

**Problem 1** *I showed in class that if  $p$  is a prime, then for  $0 < j < p$ ,  $\binom{p}{j}$  is divisible by  $p$ . For this problem show that the converse is true. Namely, if for all  $0 < j < n$ ,  $n$  divides  $\binom{n}{j}$ , then  $n$  is a prime.*