6) Suppose $X_1, \ldots, X_n$ iid random variable with pdf $Bin(n;p)$.

a) Show that $S = \sum_{i=1}^{n} x_i$ is a sufficient statistic for p by using Neymon Factorisation.

b) using the result you find in question 4. Find a (UMVUE (uniform minimum variance unbiased estimator) of p by using Lehmann Scheffe Theorem.

(Hint: The Question 4 and Question 6 a) results satisfies css property of S. You need to find unbiased estimator of p by using S)