HOMEWORK 6

Exercise 1. (a) Let X be a Bernoulli random variable, namely a random variable with only two values, 0 and 1, distribution function

$$\mathbf{p}(0) = 1 - p \qquad \text{and} \qquad \mathbf{p}(1) = p.$$

Compute $E(X)$ and $var(X)$.

(b) Let X be a binomial random variable with parameters (n, p). (Recall that this means that X counts the number of successes in n independent trials with outcome S or F, where the probability of success $P(S) = p$.

Compute $E(X)$ and $var(X)$.

Hint: Write X as a sum of random variables and try to use what you have computed in part one.