Assignment 02

1. Let $X \sim$ binomial distribution $B(n, p)$. Show that $\sum_{j=0}^{n} \Pr[X = j] = 1$.

2. Let $X \sim$ geometric distribution $G(p)$. Show that $\sum_{n \geq 1} \Pr[X = n] = 1$.

3. Give a practical example of coupon collector's problem and provide your analysis.