Intro to Random Variables: Practice Problems

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1. A bowl contains two red balls and three blue balls. Three balls are selected at random from the bowl. Let random variable X denote the number of red balls among them. Find the range, PMF and CDF of X.

2. You are rolling a pair of dice. Let random variable X denote the maximum of the two numbers you got. Find the range, PMF and CDF of X.

3. You are tossing a fair coin until Heads appear. Then you stop. Let random variable X be the number of times you need to toss the coin. Find the range, PMF and CDF of X.

4. Consider the random variable below. Find EX and $E(X^2)$.

	-1	1
$P(X)$	$\frac{1}{3}$	$\frac{2}{3}$

5. You are rolling a fair die. Let random variable X denote the outcome you got. Find the expected value and variance of X.