

# COMP 1433 Assignment

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**Q1:**

(a)

This is a Negative Binomial Distribution

$$X \sim \text{NB}(r, p)$$

$$P(X = x) = \binom{x-1}{r-1} p^r (1-p)^{x-r}$$

$$r = 1$$

$$p = 1/3$$

$$E(X) = 1 / (1/3) = 3$$

(b)

$$r = 1$$

$$p = 1/N$$

$$E(X) = r / p = N$$