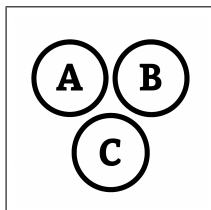
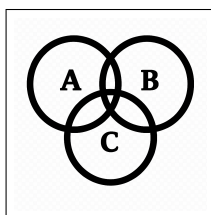


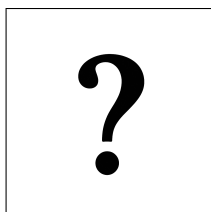
# G Discrete Random Variables G



$$\begin{aligned}
 X(HHH) &= 3 \\
 X(HHT) &= 2 \\
 X(HTH) &= 2 \\
 X(THH) &= 2 \\
 X(HTT) &= 1 \\
 X(THT) &= 1 \\
 X(TTH) &= 1 \\
 X(TTT) &= 0
 \end{aligned}$$



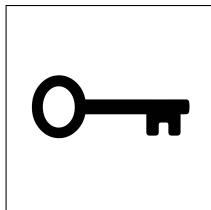
$$\begin{aligned}
 X : \Omega &\rightarrow 0, 1, 2, 3 \\
 P(X = 0) &= \frac{1}{8} \\
 P(X = 1) &= \frac{3}{8} \\
 P(X = 2) &= \frac{3}{8} \\
 P(X = 3) &= \frac{1}{8}
 \end{aligned}$$



$$\begin{aligned}
 P_1 &= 0.7 \\
 P_2 &= 0.5 \\
 P_3 &= 0.4 \\
 X : \Omega &\rightarrow \mathbb{R} \\
 \Omega &= \{H, M\}^3 \\
 X(M, M, M) &= 0 \\
 X(H, M, M) &= 1 \\
 X(M, H, M) &= 1 \\
 X(M, M, H) &= 1 \\
 X(H, H, M) &= 2 \\
 X(H, M, H) &= 2 \\
 X(M, H, H) &= 2 \\
 X(H, H, H) &= 3 \\
 P(X = 0) &= P(M, M, M) = ?
 \end{aligned}$$

# G Discrete Random Variables G

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$$P_1 = 0.7$$

$$P_2 = 0.5$$

$$P_3 = 0.4$$

$$X : \Omega \rightarrow \mathbb{R}$$

$$\Omega = \{H, M\}^3$$

$$X(M, M, M) = 0$$

$$X(H, M, M) = 1$$

$$X(M, H, M) = 1$$

$$X(M, M, H) = 1$$

$$X(H, H, M) = 2$$

$$X(H, M, H) = 2$$

$$X(M, H, H) = 2$$

$$X(H, H, H) = 3$$

$$P(X = 0) = P(M, M, M) = ?$$

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$$P(M, M, M) = (1 - 0.7)(1 - 0.5)(1 - 0.4) = 0.3 \times 0.5 \times 0.6 = 0.09$$