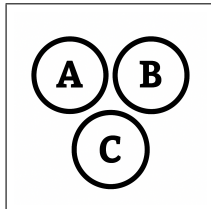
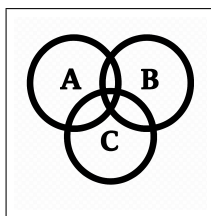


M Posterior Probabilities M

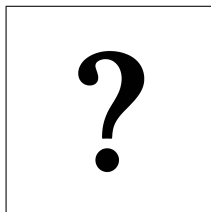


$$\begin{aligned}P(H) &= 0.30 \\P(L) &= 0.70 \\P(A|H) &= 0.40 \\P(A|L) &= 0.20\end{aligned}$$



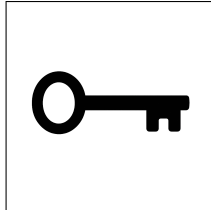
$$\begin{aligned}P(A) &= P(A|H)P(H) + P(A|L)P(L) \\P(A) &= (0.4)(0.3) + (0.2)(0.7) = 0.12 + 0.14 = 0.26\end{aligned}$$

$$P(H|A) = \frac{P(A|H)P(H)}{P(A)} = \frac{(0.4)(0.3)}{0.26} = \frac{0.12}{0.26} = \frac{6}{13} \approx 0.4615$$



$$\begin{aligned}P(R) &= 0.70 \\P(R^C) &= 0.30 \\P(F|R) &= 0.60 \\P(F|R^C) &= 0.10 \\P(R|F) &= ?\end{aligned}$$

M Posterior Probabilities M



$$\begin{aligned}P(R) &= 0.70 \\P(R^C) &= 0.30 \\P(F|R) &= 0.60 \\P(F|R^C) &= 0.10 \\P(R|F) &= ?\end{aligned}$$

$$\begin{aligned}P(F) &= P(F|R)P(R) + P(F|R^C)P(R^C) \\&= (0.60)(0.70) + (0.10)(0.30) \\&= 0.45\end{aligned}$$

$$P(R|F) = \frac{P(F|R)P(R)}{P(F)} = \frac{(0.60)(0.70)}{0.45} = 0.93$$