

Multiplicative Rule

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independent event - So the independent event means when the possibility of a is not hampering the possibility of b that is your independent event

$$P_r(A \& B) = P_r(A) \times P_r(B)$$

Ex \rightarrow Rolling a Dice \rightarrow

$$\begin{aligned} P_r(1 \& 3) &= \frac{1}{6} \times \frac{1}{6} \\ &= \frac{1}{36} \end{aligned}$$

Dependent event - Dependent event means when the possibility of a is hampering possibility of b

$$P(A \& B) = P_r(A) \times P_r(B|A)$$

Example - First I want to remove king and then I want to remove Queen

$$P_r(K) = \frac{13}{52}$$

$$P_r(Q|K) = \frac{13}{39}$$

$$P(K \& Q) = \frac{13}{52} \times \frac{13}{39}$$

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