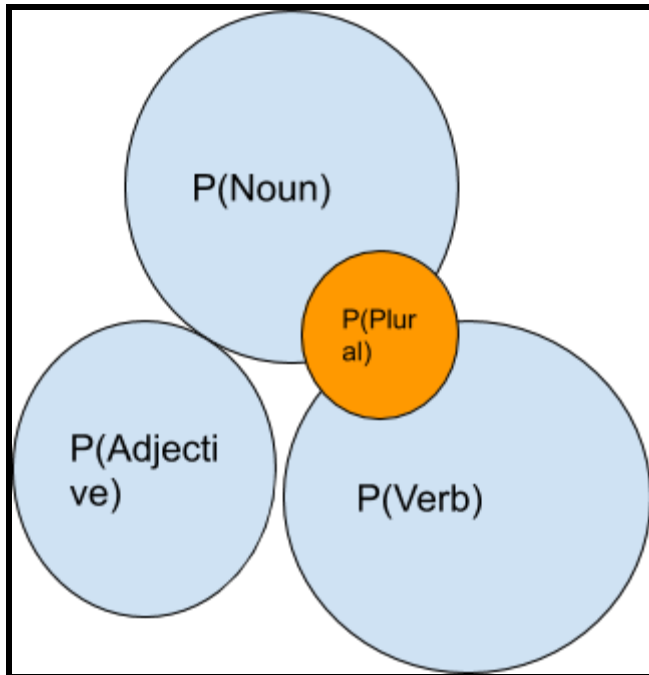


1)



The probability of noun, probability of verb, and probability of adjective are all mutually exclusive. If one occurs, the other does not. Plurality (in the English language, at least) can not be used for adjectives, however it can be applied to verbs or nouns.

2)

$$\begin{aligned}
 P(A|B)P(B) &= P(B|A)P(A) \\
 &= P(A|B)(.12) = (.03)(.37) \\
 &= P(A|B) = (.03)(.37)/(.12) = \mathbf{.925}
 \end{aligned}$$

3)

$$\begin{aligned}
 P(X \cap Y) &= .12 \\
 P(X) &= .48 \\
 P(Y) &= .08 \\
 P(X' \cap Y') &= .32 \Rightarrow P(X \cup Y) = .68 \\
 &\text{Since, } .68 \neq .48 + .08, \text{ hence, not independent}
 \end{aligned}$$