

Frequency Table

Outlook	Y	N	temp	Y	N
Sunny	2	3	hot	2	2
Overcast	4	0	mild	4	2
rainy	3	2	cool	3	1
Humidity	Y	N	Windy	Y	N
high	3	4	false	6	2
normal	6	1	true	3	3

$\frac{\text{outlook}}{\text{sunny}} \cdot \frac{\text{temp.}}{\text{cool}} \cdot \frac{\text{humid}}{\text{high}} \cdot \frac{\text{Windy}}{\text{True}}$

$$P(Y \mid \text{outlook} = \text{"Sunny"})$$

$$= \frac{2}{9}$$

$$P(Y \mid \text{Temp} = \text{"cool"}) = \frac{3}{9}$$

$$P(Y \mid \text{Humid} = \text{"high"}) = \frac{3}{9}$$

$$P(Y \mid \text{Windy} = \text{"True"}) = \frac{3}{9}$$

$$P(Y) = \left(\frac{2}{9} \times \frac{3}{9} \times \frac{3}{9} \times \frac{3}{9} \right) \times \frac{9}{14}$$

$$P(N \mid \text{outlook} = \text{"Sunny"}) = \frac{3}{5}$$

$$P(N \mid \text{Temp} = \text{"Cool"}) = \frac{1}{5}$$

$$P(N \mid \text{Humid} = \text{"high"}) = \frac{4}{5}$$

$$P(N \mid \text{Windy} = \text{"True"}) = \frac{3}{5}$$

$$P(N) = \left(\frac{3}{5} \times \frac{1}{5} \times \frac{4}{5} \times \frac{3}{5} \right) \times \frac{5}{14} = 0.02$$