

Ex. Learning NB

W1	W2	Class
The	Deal		Spam
Free	\$\$		Spam
Dear	Joe		Ham
\$\$	Free		Spam
Hello	Fred		Ham
Fred	Hello		Ham
Dear	Fred		Ham
Dear	Winner		Spam
Free	Firewood		Ham
Hello	Winner		Spam

$$P(\text{Ham}) = \frac{1}{2} \quad P(\text{Hello}|\text{Ham}) = \frac{2}{5} \quad P(\text{Free}|\text{Ham}) = \frac{1}{5} \quad P(\text{Dear}|\text{Ham}) = \frac{2}{5}$$

$$P(\text{Spam}) = \frac{1}{2} \quad P(\text{Hello}|\text{Spam}) = \frac{1}{5} \quad P(\text{Free}|\text{Spam}) = \frac{2}{5} \quad P(\text{Dear}|\text{Spam}) = \frac{1}{5}$$