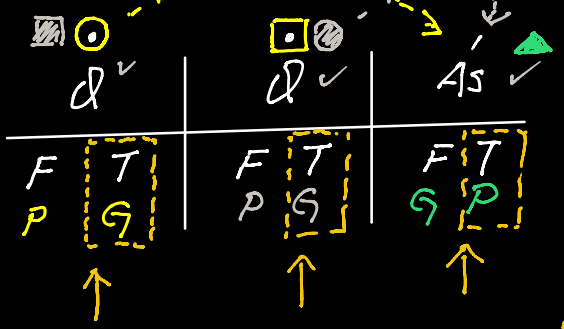
PG - MLProb



$\Rightarrow$ TROCAR 2/3 → As

MESA → Q

Não é aleatório é determinístico

P(Q) = 1 !

aleatório

Trocar : 1/2 → 50%

TROCAR?

$$P(As/Q) = \frac{P(Q/As) \cdot P(As)}{P(Q)} = \frac{1/3}{}$$

$P(Q/As) = 1$

$$P(Q) = \underbrace{P(Q/\overline{As})}_{1.0?} \cdot \underbrace{P(\overline{As})}_{2/3} + \underbrace{P(Q/As)}_{1.0?} \cdot \underbrace{P(As)}_{1/3}$$

$P(Q) = 2/3 + 1/3 = 1$

$P(\overline{As}/Q) = 1 - 1/3 = 2/3$!

$$\hat{C} = \max_{c \in C} \frac{P(d/c)\ P(c)}{\underbrace{P(d)}_{\text{evidência}}}$$

$$C \begin{cases} N \\ P \end{cases} \longrightarrow \begin{aligned} P(Ng) &= 3/5 \\ P(Ps) &= 2/5 \end{aligned}$$

frase: *predictable with no fun*

Categoria	Documentos
N	just plain boring
N	entirely predictable and lacks energy
N	no surprises and very few laughs
P	very powerful
P	the most fun film of the summer

$$P(\text{Predictable}/\text{Neg}) = \frac{1+1}{14+20}$$
$$P(\text{no}/\text{Neg}) = \frac{1+1}{14+20}$$
$$P(\text{fun}/\text{Neg}) = \frac{0+1}{14+20}$$

$$\longrightarrow P(\text{Predictable}/\text{Pos}) = \frac{0+1}{9+20}$$
$$P(\text{no}/\text{Pos}) = \frac{0+1}{9+20}$$
$$P(\text{fun}/\text{Pos}) = \frac{1+1}{9+20}$$

$$P(\text{Neg}/\text{frase}) = \frac{P(\text{frase}/\text{Neg}) \cdot P(\text{Neg})}{P(\text{frase}/\text{Pos}) \cdot P(\text{Pos})}$$

$$\max_{c \in C} \begin{cases} P(\text{Neg}/\text{frase}) = \frac{2}{34} \times \frac{2}{34} \times \frac{1}{34} \times \frac{3}{5} = 6.1 \times 10^{-5} \\ P(\text{Pos}/\text{frase}) = \frac{1}{29} \times \frac{1}{29} \times \frac{2}{29} \times \frac{2}{5} = 3.2 \times 10^{-5} \end{cases}$$