

R, A, Y	A=0		A=1	
	Y=0	Y=1	Y=0	Y=1
R=0	a	b	c	d
R=1	e	f	g	h

$$\begin{aligned}
 P(R=0|Y=0, A=0) &= P(R=0|Y=0, A=1) \\
 &= \frac{P(R=0, Y=0, A=0)}{P(Y=0, A=0)} = \frac{a}{a+e} = \frac{c}{c+g}
 \end{aligned}$$

$$P(Y=0|R=0, A=0)$$

$$= \frac{a}{a+b} = \frac{c}{g+h}$$

$$\begin{aligned}
 &\text{show } P(A)P(Y) \\
 &= P(A, Y)
 \end{aligned}$$

$$\begin{aligned}
 \rightarrow b &= e \\
 c &= h
 \end{aligned}$$

iff

$$(A \perp Y)$$

$$\forall a, y \in A, Y$$

$$P(A)P(Y) = P(A \cap Y) \quad \forall a, y$$

$$P(A=0) = a+b+f / a+2b+2c+d+f+g$$

$$P(A=1) = 1 - P(A=0)$$

$$P(A=0 \cap Y=0) = a+b$$