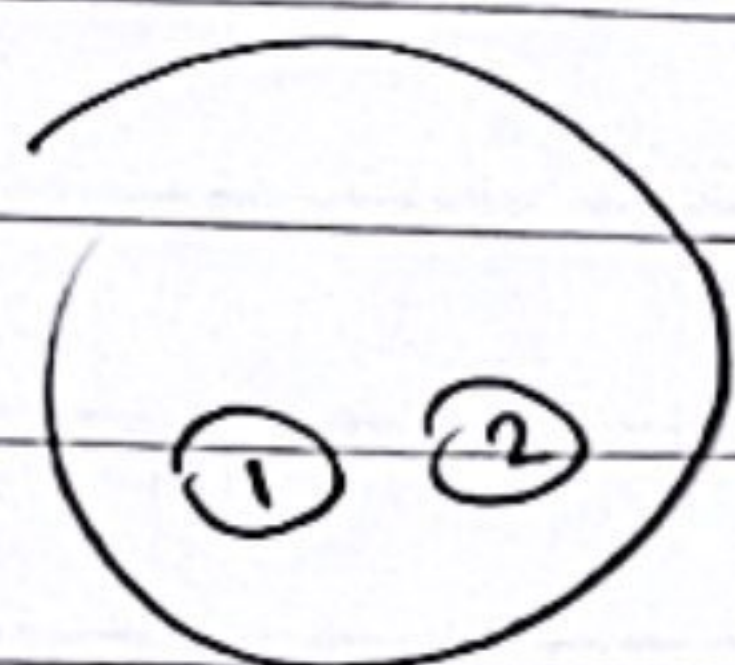


Condition probability
which is dependent

يعتمد على الحدث الذي قبله

$$P(X|Z) = \frac{P(X \cap Z)}{P(Z)}$$



$$P_1(1,5)$$

$$P_2(1,5)$$

$$P(H|1) = ,2$$

$$P(H|2) = ,4$$

$$P(T,T) = ?$$

$$1 \quad H \quad H \quad ,5 \times ,2 \times ,2$$

$$1 \quad H \quad T \quad ,5 \times ,2 \times ,3$$

$$1 \quad T \quad H \quad ,5 \times ,3 \times ,2 \quad \frac{1}{2}$$

$$\leftarrow 1 \quad T \quad T \quad ,5 \times ,3 \times ,3$$

$$2 \quad H \quad H \quad ,5 \times ,4 \times ,4$$

$$2 \quad H \quad T \quad ,5 \times ,4 \times ,6$$

$$2 \quad T \quad H \quad ,5 \times ,6 \times ,4$$

$$\leftarrow 2 \quad T \quad T \quad ,5 \times ,6 \times ,6$$

$$\therefore P(T,T) = ,5 \times ,3 \times ,3$$

$$+ ,5 \times ,6 \times ,6$$

$$= ,5$$

$$=$$

$$P(\text{Test} | \text{Disease})$$

$$P(\text{Test}) = P(\text{Test} | \text{Disease}) \cdot P(\text{Disease}) + P(\text{Test} | \neg \text{Disease}) \cdot P(\neg \text{Disease})$$

$$\times P(\neg \text{Disease})$$