

Now adding value to check closeness to 1.

$$= P(x=F|y_0^1, y_0^2) + P(x=M|y_0^1, y_0^2) + P(x=A|y_0^1, y_0^2)$$

$$= 0.2547 + 0.2049 + 0.5404$$

$$= 1$$

* Case : Note : As in question even with the value of 0.02 the total probability for the fixed Data exceeds 1. we take a value of $P(x=A|y_1^1, y_1^2) = 0.01$

∴ the new data is.

For $x=A$

$$P(x=A|y_0^1, y_0^2) = \frac{P(x=A|y_1^1, y_1^2) \cdot P(x=A|y_0^1) P(x=A|y_1^2)}{P(x=A|y_0^1) P(x=A|y_0^2)}$$

$$= \frac{0.01 \times 0.2 \times 0.1}{0.01 \times 0.05}$$

$$= 0.4$$

Now adding value to check if it is 1.

$$= P(x=F|y_0^1, y_0^2) + P(x=M|y_0^1, y_0^2) + P(x=A|y_0^1, y_0^2)$$

$$= 0.3771 + 0.3034 + 0.4$$

$$= 1.0805$$