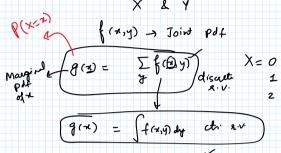
Recop

Joint pdf
$$f(x,y) = P(X=x, Y=y)$$
 in discuste case
$$P(a < X < b), c < x < d) = \int_{c}^{d} \int_{a}^{b} f(x,y) dx dy$$

. Marginal pdfs



If
$$f(x,y)=$$

$$\begin{cases}
\frac{2}{5}(2x+3y) & 0 \leq y \leq 1 \\
0 \leq y \leq 1
\end{cases}$$

$$= \begin{cases}
0$$

Find manginal poles gran & hey) of x & y.

$$h(y) = \int_{\chi} f(x,y) dx = \int_{0}^{1} \frac{g}{5} (2x+3y) dx = \frac{2}{5} \left(x^{2} + 3xy \right)_{0}^{1} = \frac{2}{5} (1+3y)$$

Conditional polfs

P(A|B)=

X-1 no. of heads

X→ 0,1,2

X= 0 { TT}

X-1 {HT, TH3

f(x,y) - Joint pdf
g(x) - Marginal pdf of X

X-2 { HH3

X -> 2.0

X= x -> is an event

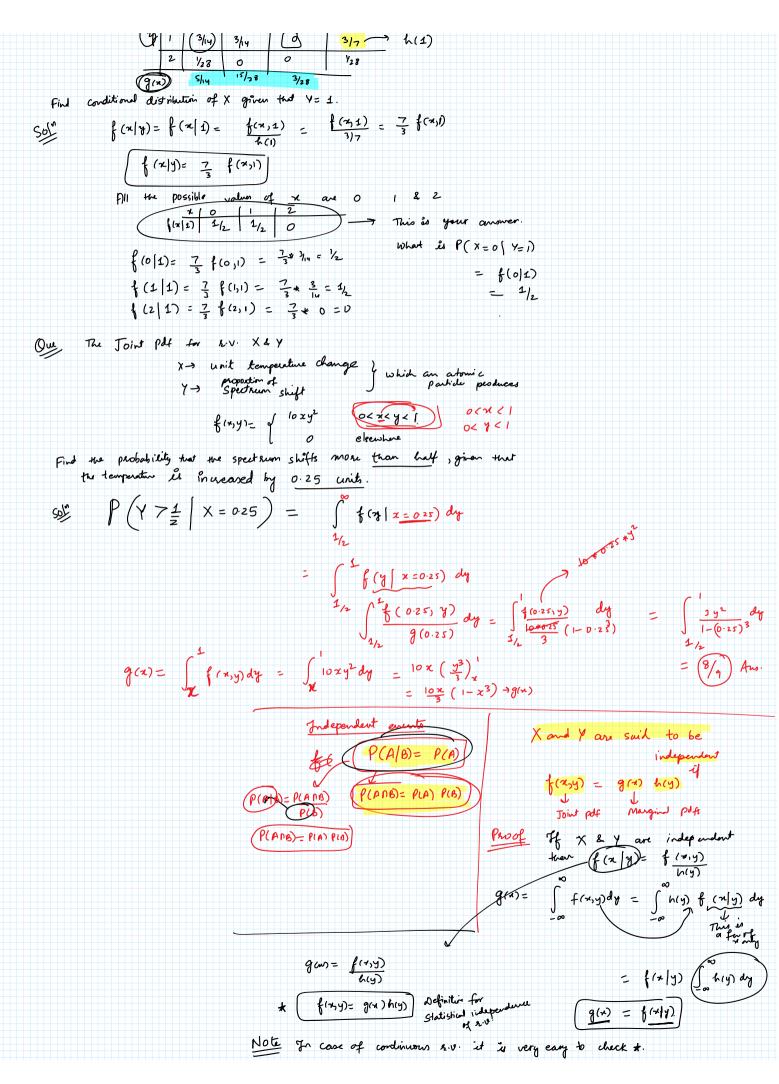
= (P (Y= y, X=x

P(x=x)

f(x|y) or f(y|x) are conditional pdfs.

Que For disrete v.v. x 4 4, the joint plf is given below

| fсa, | y) | | € | | |
|----------|----------|--------|----------|------|---------------------|
| <u> </u> | | 0 | 1 | 1 2 | (h(y)) |
| | 0 | 3/23 | 9/2 8 | 3/28 | 15/28 - add the ene |
| (4) | 1 | (3/14) | 3/14 | B | 3/7 h(1) |
| | 2 | 1/28 | 0 | 0 | Y ₂ 8 |
| 6. | <i>-</i> | Sl | 15/28 | 3/20 | ` |



| m ca | re of | disnete | | | | ь | check | each entry. | |
|------|-------|---------|-----|--------|------|---|-------|-------------|--|
| | | | . o | re pro | blem | | | | |