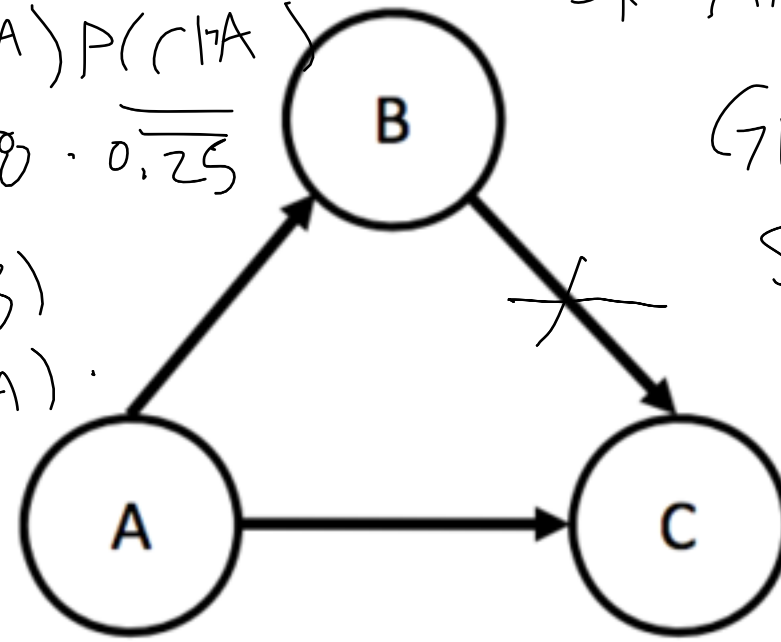
$P(A,B,C) = P(\neg A)\, P(B|\neg A)\, P(C|\neg A)$

$0,25 \cdot 0,8 \cdot 0,25$

$$\frac{P(ABC)}{P(BC)} = \frac{P(A) \cdot P(B|A) \cdot P(C|AB)}{\sum_A P(ABC)}$$



* Also try this:

Given $P(X|YZ) = P(X|Y)$

Show $P(Z|YX) = P(Z|Y)$

$$\frac{0,75 \cdot 0,9 \cdot 0,8}{0,75 \cdot 0,9 \cdot 0,8 + 0,25 \cdot 0,8 \cdot 0,25}$$

** $P(C|AB) = P(C|A)$ **

$P(A = true) = 0.75$	$P(C = true \mid A = true, B = true) = 0.8$ $P(C = true \mid A = true, B = false) = 0.8$ $P(C = true \mid A = false, B = true) = 0.25$ $P(C = true \mid A = false, B = false) = 0.25$
$P(B = true \mid A = true) = 0.9$ $P(B = true \mid A = false) = 0.8$	

Q1. Are any variables conditionally independent of one another?

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Q2. Calculate P (A = true|B = true,C = true)

#4. $P(X|YZ) = P(X|Z) \Rightarrow P(XY|Z) = P(X|Z) * P(Y|Z)$

Show $P(X|WZ) = P(X|Z)$

$\not\perp$ $P(XY|ZW) = P(YX|Z)$

$\Rightarrow P(XYW|Z) = P(XY|Z)P(W|Z)$

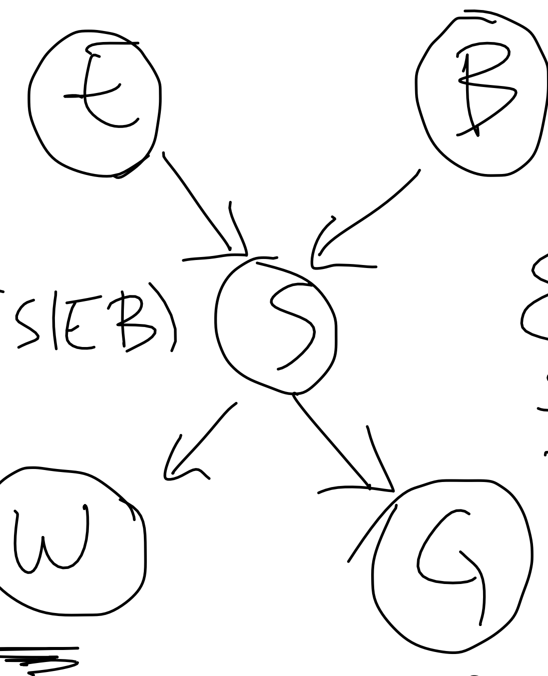
$$\sum_y P(XY|ZW) = \sum_y P(XY|Z)$$

$$\sum_y P(ZW|XY) \neq P(ZW|X)$$

$$\sum_P \sum_Q P(XYZPQ) = P(XYZ)$$

$P(E)$ $P(B)$

$P(S|EB)$



$P(W|S)$

$f_0(W,S)$

$f_1(S)$

Restricted Factor

$P(W|S)$

$P(W|\neg S)$

$\cancel{P(\neg W|S)}$

$\cancel{P(\neg W|\neg S)}$

$P(G|S)=0.5$

$P(G|\neg S)=0*$

$$\boxed{P(EBSWG)} = \sum_S \sum_B \sum_E P(E)\cdot P(B)\cdot P(S|EB)\cdot P(W|S)\cdot P(G|S)$$

Q2. $P(G|W)$

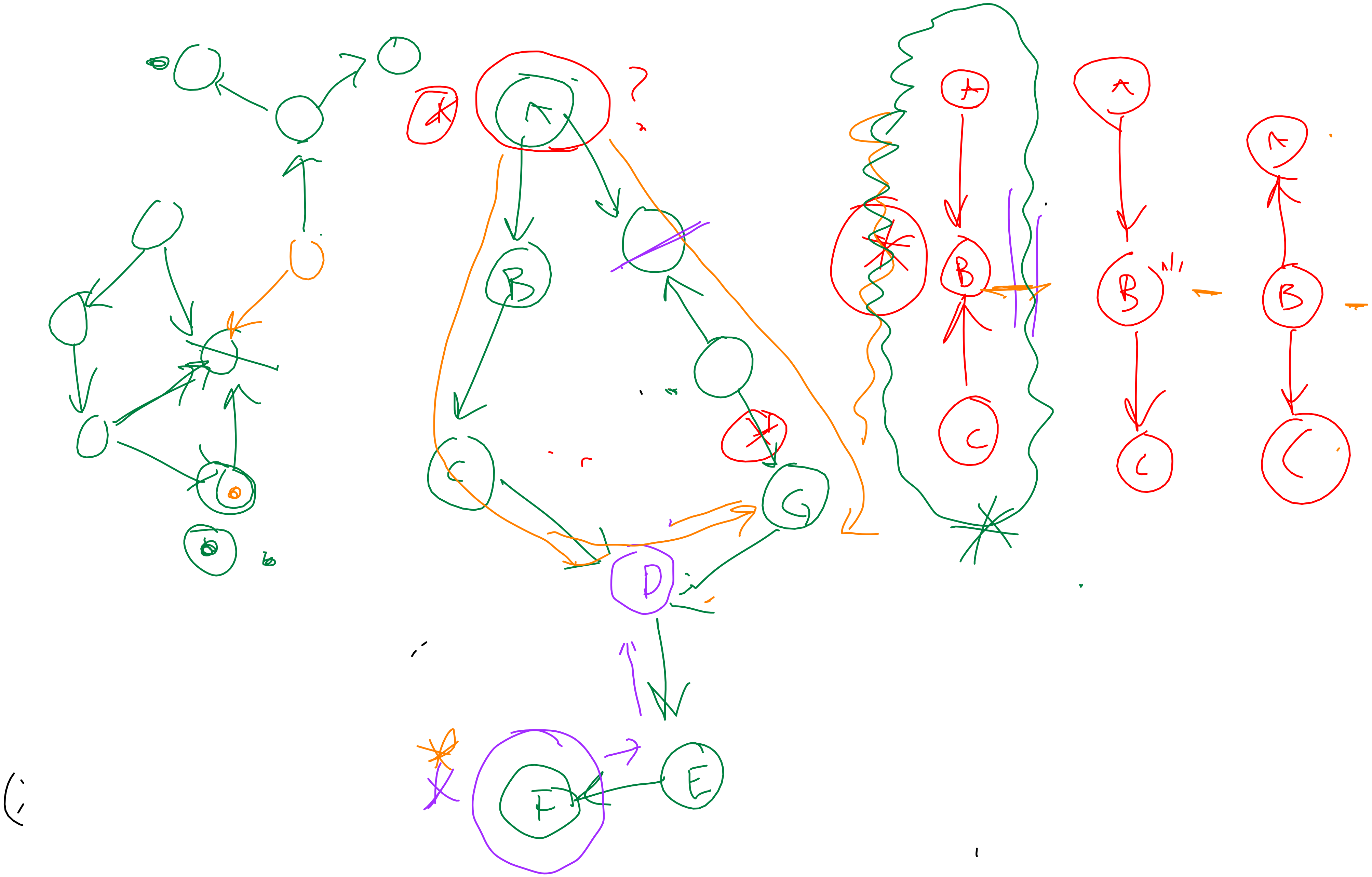
$$\sum_E f(ESB)\cdot f(E) = f(S,B)$$

$$\sum_B f(S,B)\, f(B) = f_2(S)$$

$$\sum_S f(G,S)\, f_1(S)\, f_2(S) = f(G)$$

Normalize this

$$P(g|w) = \frac{f(g)}{f(g)+f(\neg g)}$$



1 | T | 4

2 | T | 5

1 - e T N F