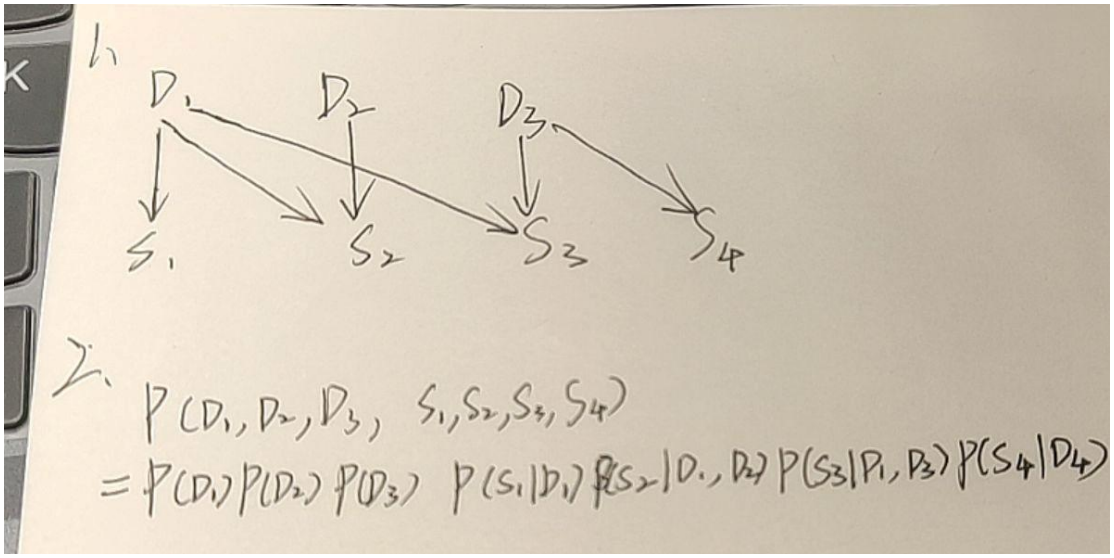
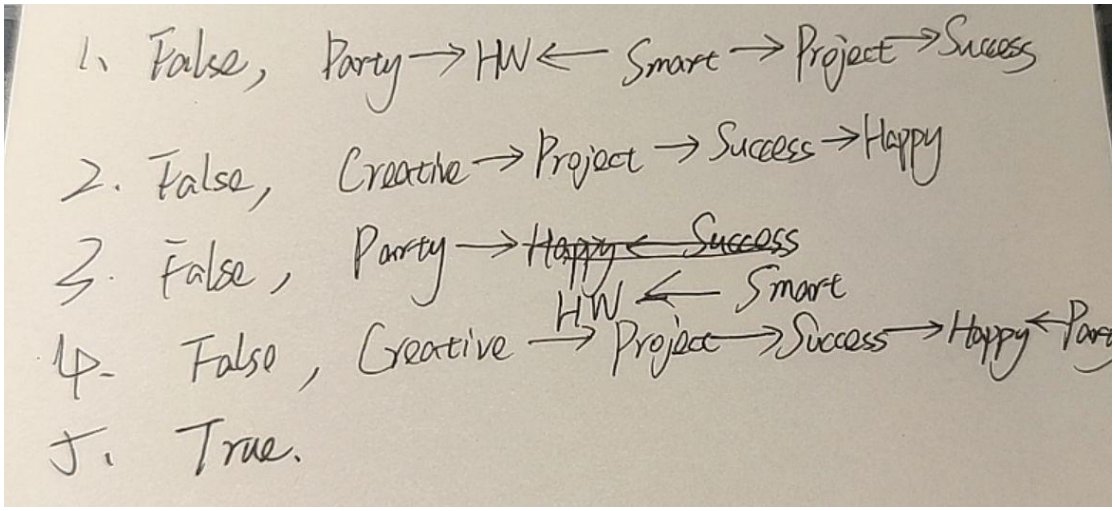
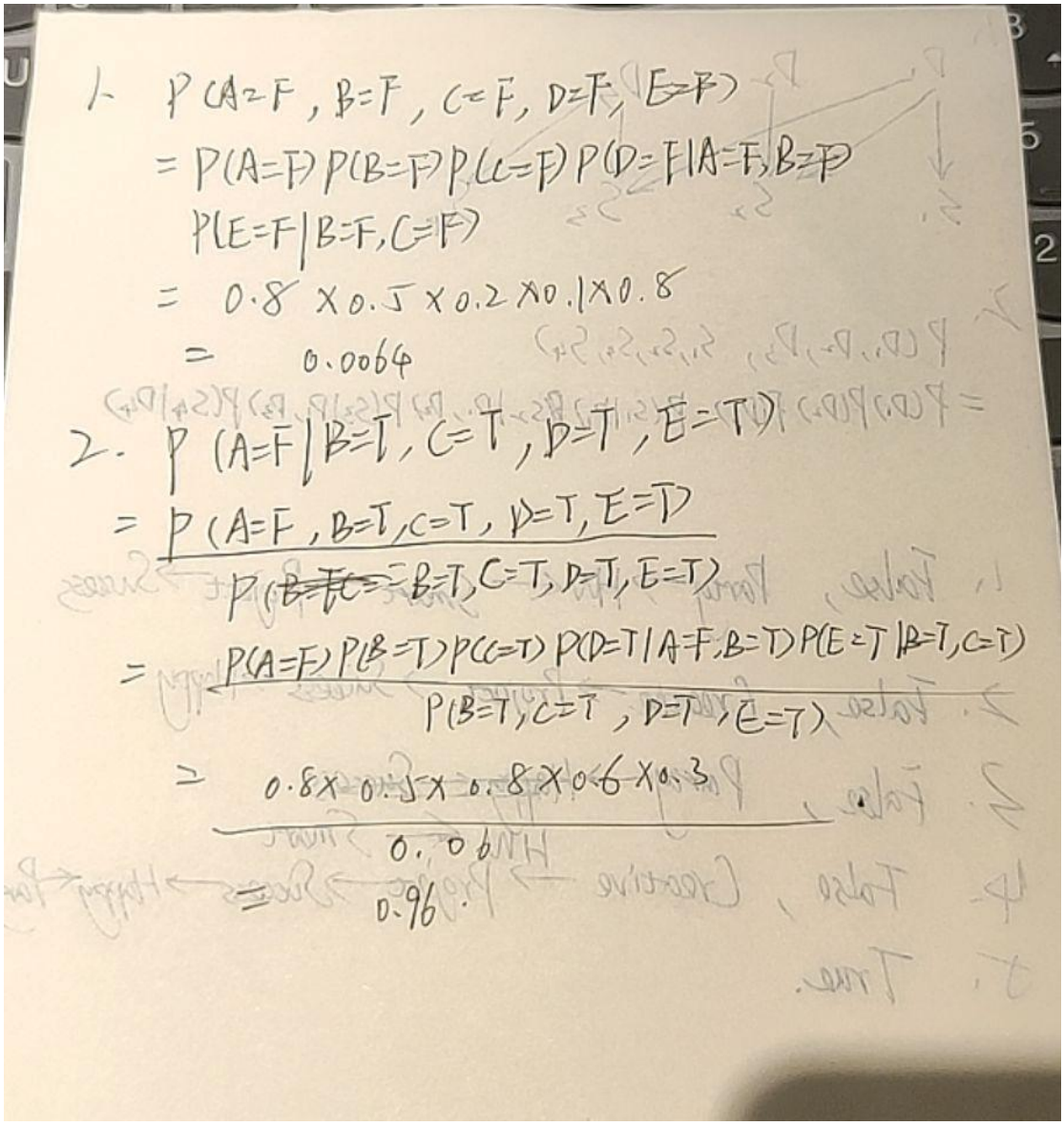
Network Basics



D-Separation



Inference



Variable Elimination

1. Eliminate X_1

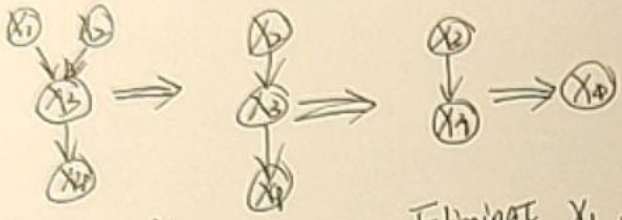
X_3	X_2	$P(X_3 \mid X_2)$
0	0	0.78
1	0	0.22
0	1	0.41
1	1	0.59

Eliminate X_2

X_3	$P(X_3)$
0	0.622
1	0.368

Eliminate X_3

X_4	$P(X_4)$
0	0.4192
1	0.5808

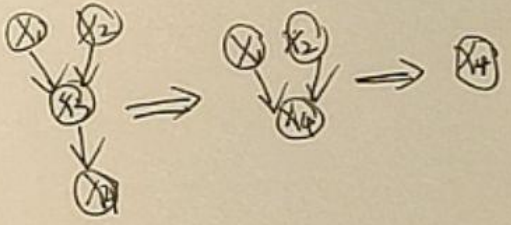


2. Eliminate X_3

X_4	X_1	X_2	$P(X_4 \mid X_1, X_2)$
0	0	0	0.4
0	0	1	0.22
0	1	0	0.16
0	1	1	0.61
1	0	0	0.6
1	0	1	0.78
1	1	0	0.84
1	1	1	0.69

Eliminate X_1, X_2

X_4	$P(X_4)$
0	0.4192
1	0.5808



3. 24 and 16

So Eliminate X_1 first.