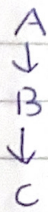


Different model structures :-

1. 1st model :



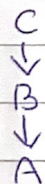
From ancestral

Sampling :

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

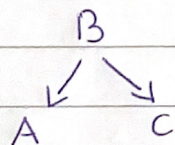
Since (negative) log likelihood is calculated, we add it.

2. 2nd model :



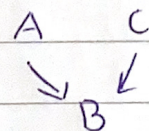
$$P(C, B, A) = P(C) P(B|C) P(A|B)$$

3. 3rd model :



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

4. 4th model :



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

according to Naive Bayes Theorem

$$= \frac{P(B) P(A|B) P(C|B)}{P(A) P(C)}$$

$$P(A) P(C)$$

assumption
conditional indep.
b/w A & C.