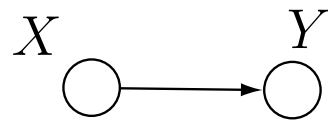


## DAG notation and terminology:

○ “node”      ↓ “arrow”



$X$  is a parent of  $Y$

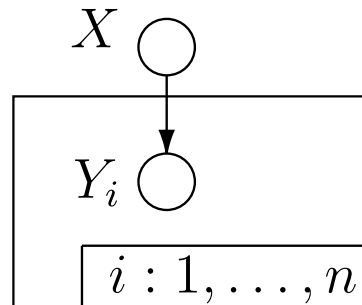
$Y$  is a daughter of  $X$

○  $X$  is an unobserved variable

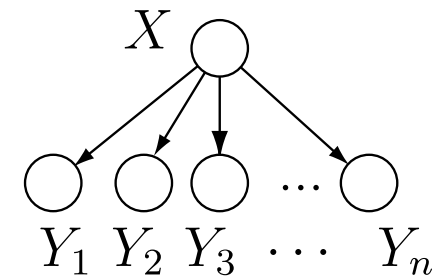
●  $X$  is an observed variable

◐  $X$  is a variable with an assumed value (for a prior)

$n$ -plates:



a shorthand for:



There are  $n$  variables  $Y_i$ , each conditionally independent given  $X$ .

Factorization:

$$P(\text{all}) = \prod_{\text{all nodes } i} P(\text{node } i | \text{parents of node } i)$$