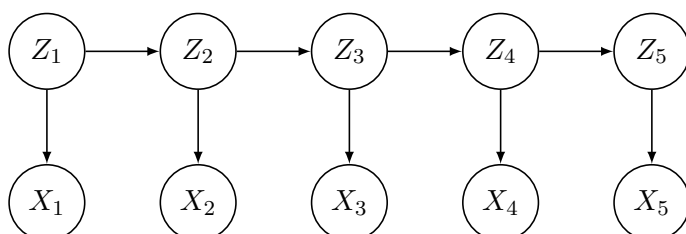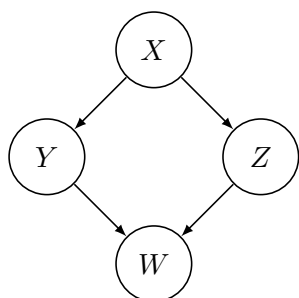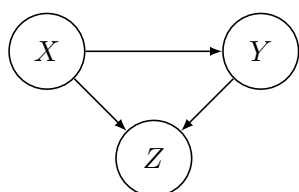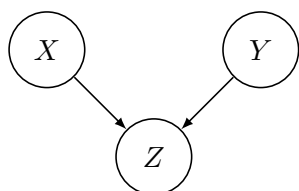# Graphical models exercises

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Translate graphs into joint probabilities

For the following graphs, write down the joint probability of the random variables.

Translate joint probabilities into dependence graphs

Draw the following joint probabilities as dependency graphs.

$$p(X)p(Y)p(Z)$$

$$p(X)p(Y \mid X)p(Z \mid X)$$

$$p(X)p(Y \mid X)p(Z \mid Y)p(W \mid X, Z)$$

$$p(Z_1) \prod_{i=1}^{5} p(X_i \mid Z_i) \prod_{i=2}^{5} p(Z_i \mid Z_{i-1})$$