Quiz\_Lecture10

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By D-separation:

1. Given X3, X1 is not independent with X4:

The path between X1 and X4 is not blocked, because the X3 is a Head-to-Head node and . So, X1 is not independent with X4.

2. Given X2 and X3, X1 is independent with X4:

The path between X1 and X4 is blocked, because X2 is a Head-to-Tail node and . So, X1 is independent with X4.

(Although X3 is also given, by D-separation, it does not affect the result.)