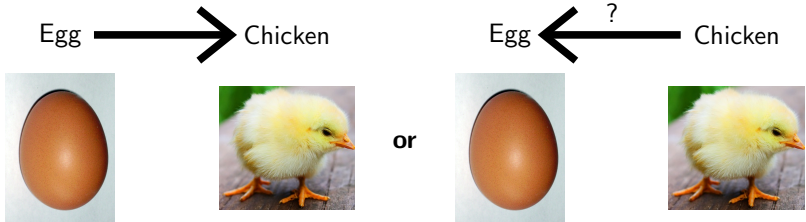


Separators and Adjustment Sets in Markov Equivalent DAGs

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Represent $\overset{?}{\rightleftarrows}$ as $-$ in mixed graph:



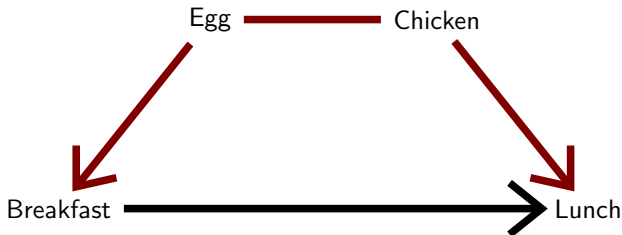
Egg



Chicken



Calculate the causal effect of breakfast on lunch:



$$P(y|do(x)) \stackrel{?}{=} \sum_z P(y|x, z)P(z)$$

Problem: In a given mixed graph \mathcal{G} with node sets \mathbf{X} , \mathbf{Y} find node set \mathbf{Z} .