1. Back-door criterion: Given an ordered pair of variables (X,Y) in a directed acyclic graph G, a set of variables Z satisfies the backdoor criterion relative to (X,Y) if no node in Z is a descendant of X, and Z blocks every path between X and Y that contains an arrow into X
2. Front-door criterion (used if the variables for the backdoor are not observed/measured): a set of variables Z is said to satisfy the front-door criterion relative to an ordered pair of variables (X, Y), if: (i) Z intercepts all directed paths from X to Y, (ii) There is no unblocked backdoor path from X to Z, and (iii) All backdoor paths from Z to Y are blocked by X.

**Refuting methods**

1. **Random Common Cause**:- Adds randomly drawn covariates to data and re-runs the analysis to see if the causal estimate changes or not. If our assumption was originally correct then the causal estimate shouldn’t change by much.
2. **Placebo Treatment Refuter**:- Randomly assigns any covariate as a treatment and re-runs the analysis. If our assumptions were correct then this newly found out estimate should go to 0.
3. **Data Subset Refuter**:- Creates subsets of the data(similar to cross-validation) and checks whether the causal estimates vary across subsets. If our assumptions were correct there shouldn’t be much variation.