



Why

We characterize chordal graphs.¹

Definition

Let (V, E) be an undirected graph. A set $S \subset V$ is a *vertex separator* for two vertices v, w (or a *vw -separator*) if v and w are disconnected in the subgraph induced by $V - S$. There always exists a vertex separator for two nonadjacent vertices.

A vertex separator is a *minimal vertex separator* for two vertices if no proper subset of it is a vertex separator for those vertices. Another term for vertex separator is *cutset*. Similarly, one for minimal vertex separator is *relatively minimal cutset*.

Example

For example, for the graph in Figure 1, $\{c, e\}$ is a minimal *ag*-separator and $\{b, c, e\}$ is a minimal *ad*-separator. A minimal vertex separator may contain another minimal vertex separator if they are minimal for different pairs of vertices.²

¹Future editions will expand.

²See Vandenberghe and Andersen, 2014.

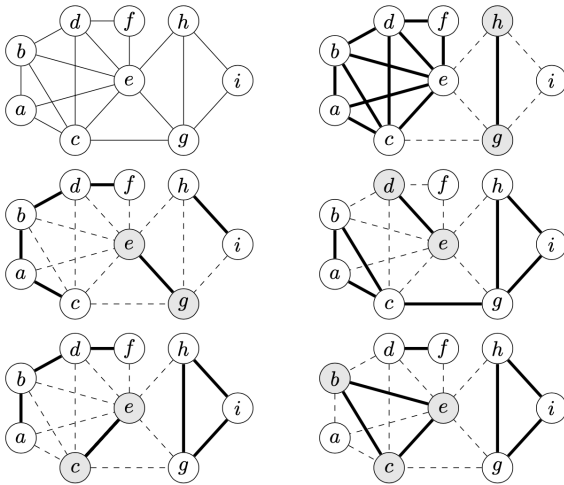


Figure 1: A chordal graph and its five minimal cutsets.

