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]

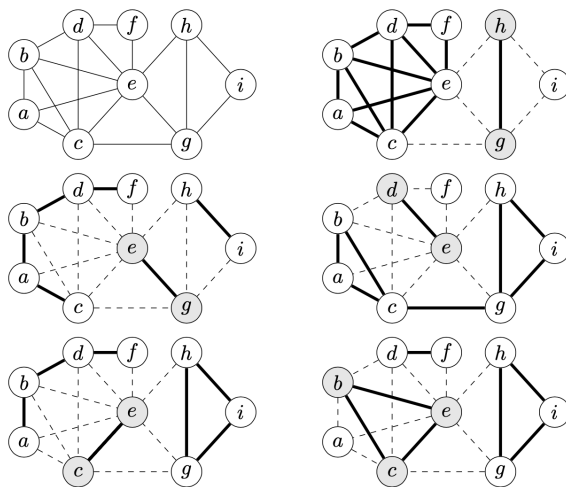[1]Future editions will expand.
[2]See Vandenberghe and Andersen, 2014.

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

Vertex Separators

Chordal Graphs

Undirected Subgraphs Trees Integer Divisors

Undirected Paths Integral Line

Sequences Undirected Graphs Integer Arithmetic

Direct Products Set Numbers Natural Multiplicative Identity Natural Additive Identity

Finite Sets Identity Elements Arithmetic

Equivalent Sets Operations Natural Powers Integer Products

Family Unions and Intersections Function Inverses Natural Products Integer Sums

Families Function Composites Function Images Natural Sums Integer Numbers

Functions Equivalence Relations Natural Order Recursion Theorem

Relations Peano Axioms

Set Products Natural Induction

Generalized Set Dualities Set Powers Natural Numbers

Set Unions and Intersections Partitions Intersection of Empty Set Set Dualities Unordered Triples Successor Sets

Set Intersections Pair Unions Set Complements Ordered Pairs

Pair Intersections Set Unions Set Differences

Empty Set Unordered Pairs

Set Specification Geometry

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities Sets

Names

Letters Objects

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