



Trees

TODO: make this not jsut the edge set...

1 Why

Tree branches split and do not recombine. We formalize this property in the language of graphs.

2 Definition

A *tree* is a connected and acyclic undirected graph. A *forest* is an undirected graph if it does not contain any cycles.

2.1 Notation

Let $T = (V, E)$ be a tree, a mnemonic for “tree.”

3 Properties

Proposition 1. *A unique path exists between any two vertices of a tree.*

Proof. The path exists because a tree is connected. The path is unique, since were it not, we could create a cycle by combining these paths. \square