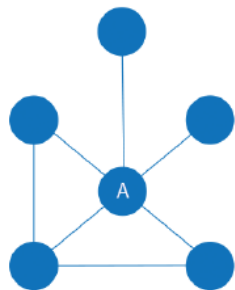- **Triangle Count and Clustering Coefficient** for overall relationship density
- **Strongly Connected Components** and **Weakly Connected Components** for finding connected clusters
- **Label Propagation** for quickly inferring groups based on node labels
- **Louvain Modularity** for looking at grouping quality and hierarchies

Measuring Algorithms

Triangle Count
The number of triangles that pass through a node. A has two triangles.
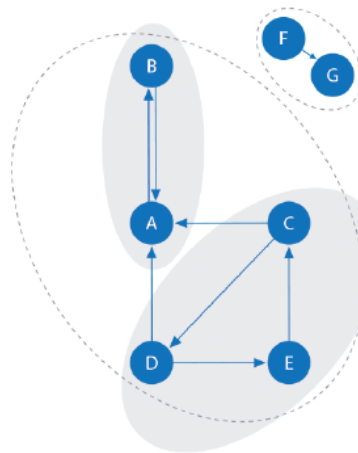
Clustering Coefficient
The probability that the neighbors of a node are connected to each other.

A has a 0.2 CC. Any 2 nodes connected to A have a 20% chance of being connected to each other.

These measures can be counted/normalized globally.

Components Algorithms

Connected Components
Sets where all nodes can reach all other nodes, regardless of direction.

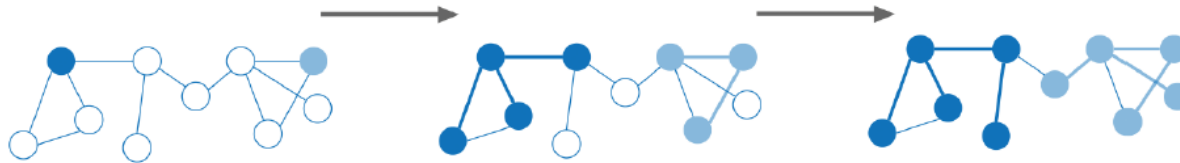2 sets shown with dashed outlines: {A,B,C,D,E} and {F,G}.

Strongly Connected Components
Sets where all nodes can reach all other nodes in both directions, but not necessarily directly.

2 sets shown shaded:

Label Propagation Algorithm

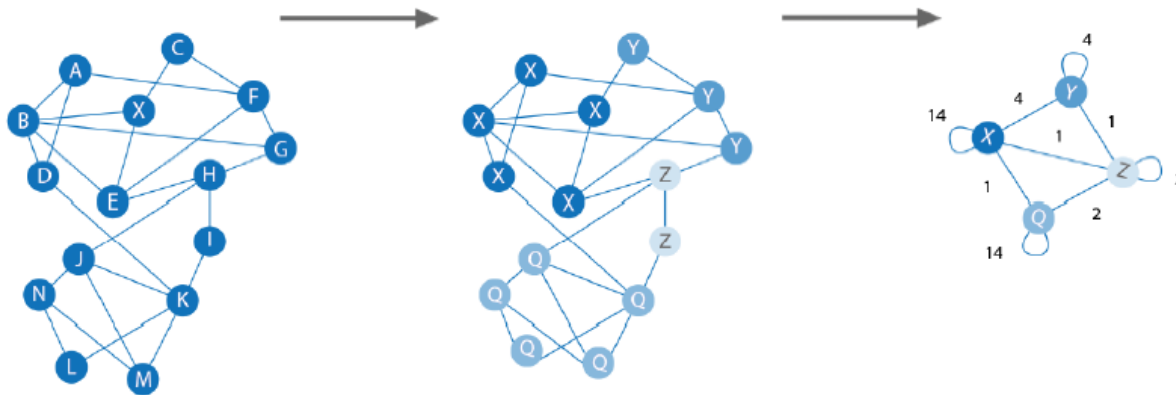Spread labels to or from neighbors to find clusters.

Run over multiple iterations.
Weights of relationships and/or nodes are often used to determine label "popularity" in a group.

Louvain Modularity Algorithm

Find clusters by moving nodes into higher relationship density groups and aggregating into supercommunities.

Run over multiple iterations.
Relationship weights and totals are used to determine grouping.