# Clustering Coefficient

September 18th, 2012

# Clustering coefficient of a node

- Suppose v is a node with degree d
- The d(d-1)/2 is the number of pairs of neighbors of v.
- Of these d(d-1)/2 pairs, suppose s of these pairs are connected by edges.
- Then the *clustering coefficient of node v* is s/[d(d-1)/2].
- This is the ratio of the number of pairs of neighbors of v connected by edges to the possible number of edges between neighbors.

# Clustering coefficient of a network

- The *clustering coefficient of a network* is the average clustering coefficient over all nodes in the network.

- **Question:** what to do with nodes with degree 1 or degree 0?

- **Question:** What can we see about the clustering coefficient of Erdos-Renyi graphs with small expected degree?