

## Counting Connected Sets and Connected Partitions of a Graph

Two related enumeration problems on vertex labeled graphs will be discussed. Given a graph  $G$ , we introduce and investigate the number  $C(G)$  of connected subsets of the vertex set and the number  $P(G)$  of connected partitions of the vertex set. By {it connected} we mean that the induced subgraphs are connected. The numbers  $C(G)$  and  $P(G)$  can be regarded as the graph analogs of the number of subsets and the number of set partitions, respectively, of an  $n$ -element set.

**Primary author:** Prof. VINCE, Andrew (University of Florida)

**Presenter:** Prof. VINCE, Andrew (University of Florida)