

# Trees

## Spanning Trees

A spanning tree  $T$  of a connected, undirected graph  $G$  is a tree composed of all the vertices and some (or perhaps all) of the edges of  $G$ . Informally, a spanning tree of  $G$  is a selection of edges of  $G$  that form a tree spanning every vertex.

That is, every vertex lies in the tree, but no cycles (or loops) are formed. On the other hand, every bridge of  $G$  must belong to  $T$ .