

The no. of edges in a full binary tree with 1000 external vertices

$$\begin{matrix} \text{full binary tree} \\ m=2 \end{matrix} \quad i = 1000$$

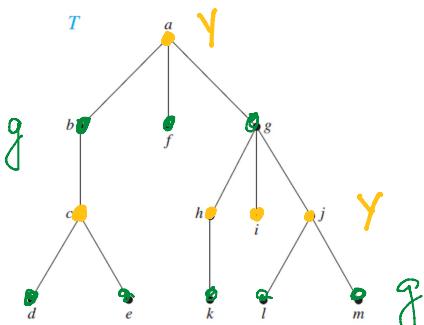
$$\begin{aligned} n &= mi+1 \\ n &= 2(1000)+1 \\ n &= 2001 \end{aligned}$$

$$\text{No. of edges} = \frac{n-1}{2}$$

$$\boxed{\text{No. of edges} = \frac{2001-1}{2}} \quad \checkmark$$

The chromatic no. of a tree graph with n vertices is

- A 1 B 2 C n D $n-1$



All tree graphs are bipartite.

(True / False)

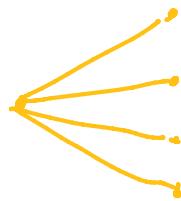
What value of m and n , $K_{m,n}$ is a tree graph?

$$\begin{matrix} m=1 \\ n=2 \end{matrix}$$

$$K_{1,2}$$

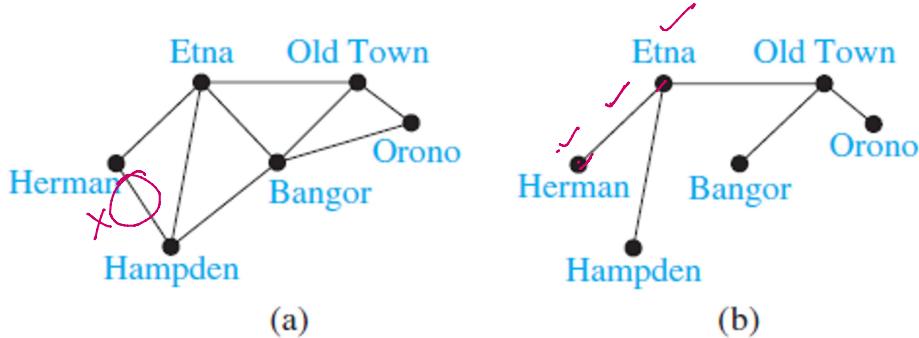
$$\begin{matrix} m=1 \\ n=\text{any value} \end{matrix}$$

$$K_{1,n}$$



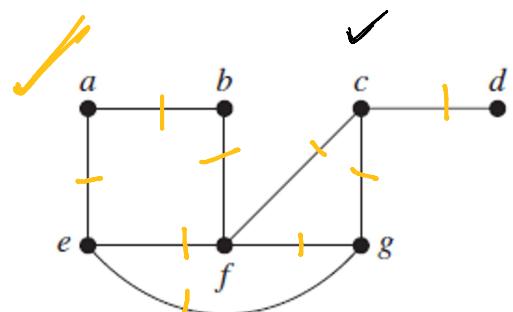
Spanning Tree :-

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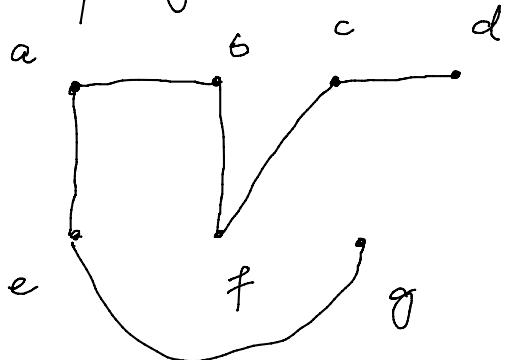
Spanning Tree :- A Spanning Tree of a graph G is the subgraph of G which is a tree graph containing all the vertices of the graph.

$n=7$ edges ✓

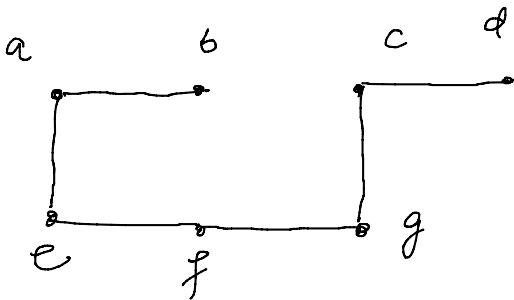


$9 - 6 = 3$

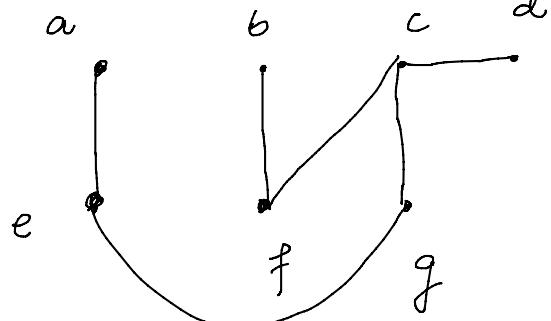
Spanning Tree



②



③



A simple graph is connected if and only if it has a spanning tree.

How many edges must be removed from a connected graph with n vertices and m edges to produce a spanning tree?

$$\downarrow$$

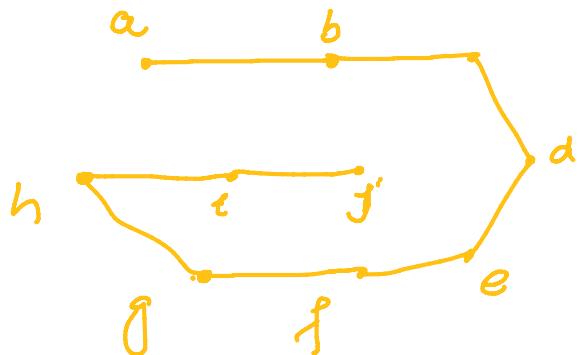
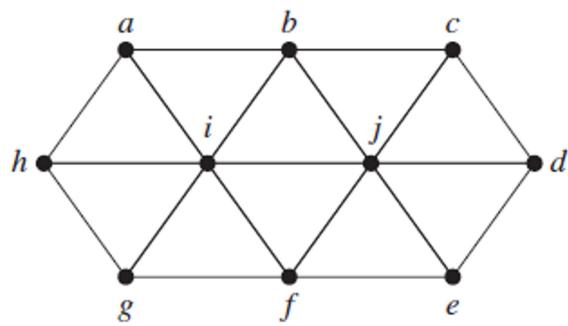
Spanning = $m - n + 1$ edges

$$m - n + 1$$

$$m - x = n - 1$$

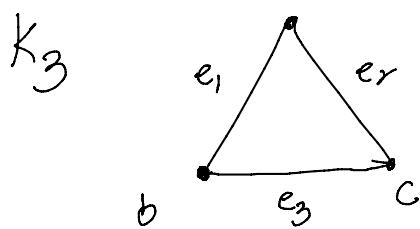
$$m - n + 1 = x$$

Find the Spanning Tree :-

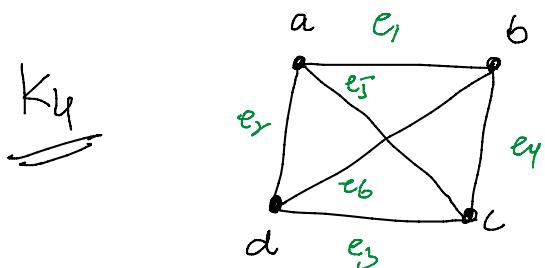
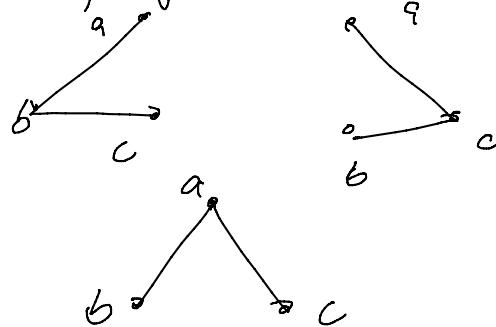


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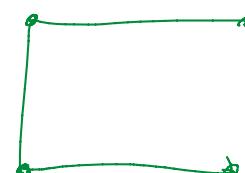
Find all Spanning Tree of K_3



3 Spanning Tree



6 edges
- one edge



(16)

6 - e -
sense edge

(16)