

## Step-1

Let  $G$  be a graph with 4 nodes and 6 edges.

We need to find all 16 spanning trees.

In 4 nodes, the spanning tree having 3 edges.

## Step-2

The number of selections 3 edges from 6 edges is,

$$\begin{aligned} {}^6C_3 &= \frac{6!}{3!3!} \\ &= \frac{4 \times 5 \times 6}{1 \times 2 \times 3} \\ &= 20 \end{aligned}$$

Out of 20 sections 4 choices gives triangle. These are not spanning trees.

Thus,  $20 - 4 = 16$  spanning trees

Therefore, there are 4 choices give triangles, leaving 16 spanning trees.