# ASSIGNMENT - 9.

**Q1.** Given a graph G and a minimum spanning tree T, suppose we decrease the decrease the weight of one of the edges not in T. Give an algorithm for finding the minimum spanning tree in the modified graph.

**A1.**

→ Adding the new decreased edge will create a cycle.

→ Removing any one edge in the cycle will still have a spanning tree.

→ So, we look at all the weights along the cycle by adding the decreased edge and we remove the edge having the maximum weight.

→ Then we change the graph back to a tree in such a way that the total weight is minimized.