

Step: sort all the Edges of graph based on their weights

- ② The Edge with min weight is added to empty tree.
- ③ next smaller edges are considered & is added to existing tree only if it does not form the cycle
- ④ If the addition of ^{any} edges to the existing tree results in cycle, such edges are ignored.
- ⑤ The above steps are continued till the tree contains all vertices of a graph

Drawbacks of Kruskal's

① Even Though Kruskal algorithm seems to be simpler than Prim's alg. it is not fast as Prim's because in Kruskal in each step while adding ^{new} edges to tree we should check the new edges forms the cycle or not.

② Unlike Prim's algorithm the intermediate steps of Kruskal's Alg. may lead to disconnected edges.

Time complexity $O(E \log E)$
Space complexity $O(V+E)$

E is no. of edges in graph.