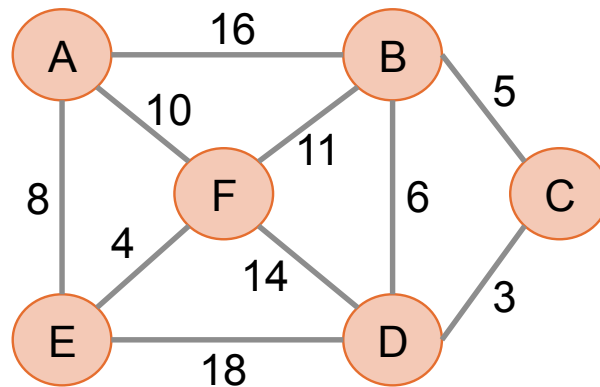


Kruskal's Algorithm:

Consider the following graph with $n = 6$ nodes and $m = 10$ edges. Using Kruskal's Algorithm, we will find the minimum spanning tree for this graph.



1. Set up the forest F with each node in its own set (root of its own tree).
2. Considering each edge in turn (we use a heap to remove the minimum weight edge each time), perform union operations on the sets above until a minimum spanning tree is created.
3. What is the runtime of the `find` operation (assuming roughly balanced trees)?
4. What is the runtime of Kruskal's algorithm overall?

Graph: modified from *Chegg*