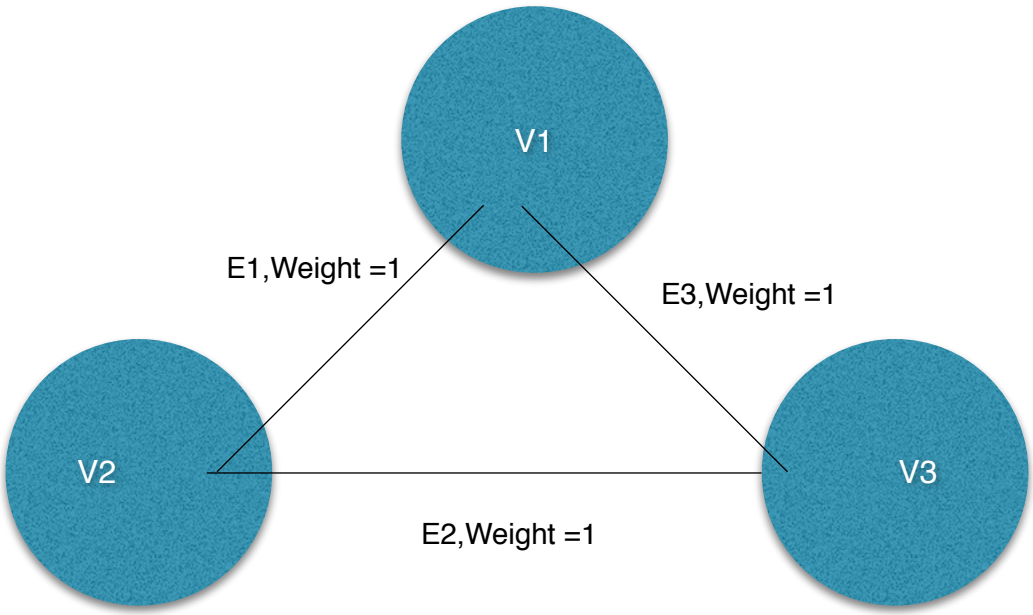
1. When all edges have different weights, and the graph has a unique MST, both algorithm finds the exact same solution
2. Sometimes the graph have edges of same weight thus leading to multiple possible MSTs. P's and K's Algorithm sometimes finds different solutions. This may depends on the implementation of the algorithms

    Assume both implementation uses some kind of queue and for edges of same weight, those ones added first have higher priority. Assume both starts to find from vertices and edges with lower index first



In this case, Prim's algorithm implementing a queue will get

V1, (enqueue E1, enqueue E3) , pick E1, visit V2 (Enqueue E2), Visit V3
thus giving E1 and E3

Kruskal's Algorithm:

(enqueue E1, enqueue E2, enqueue E3), pick E1, connect V1,V2, pick E2, connect V1,V2,V3
thus giving E1 and E2

So in this case these two algorithms gives different MSTs.