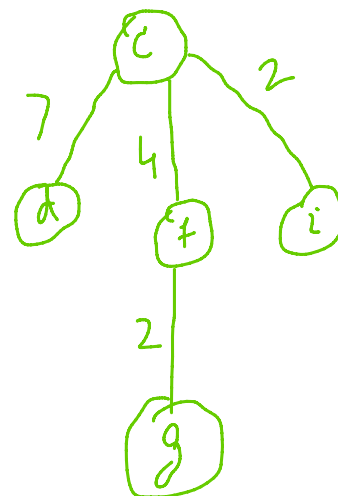
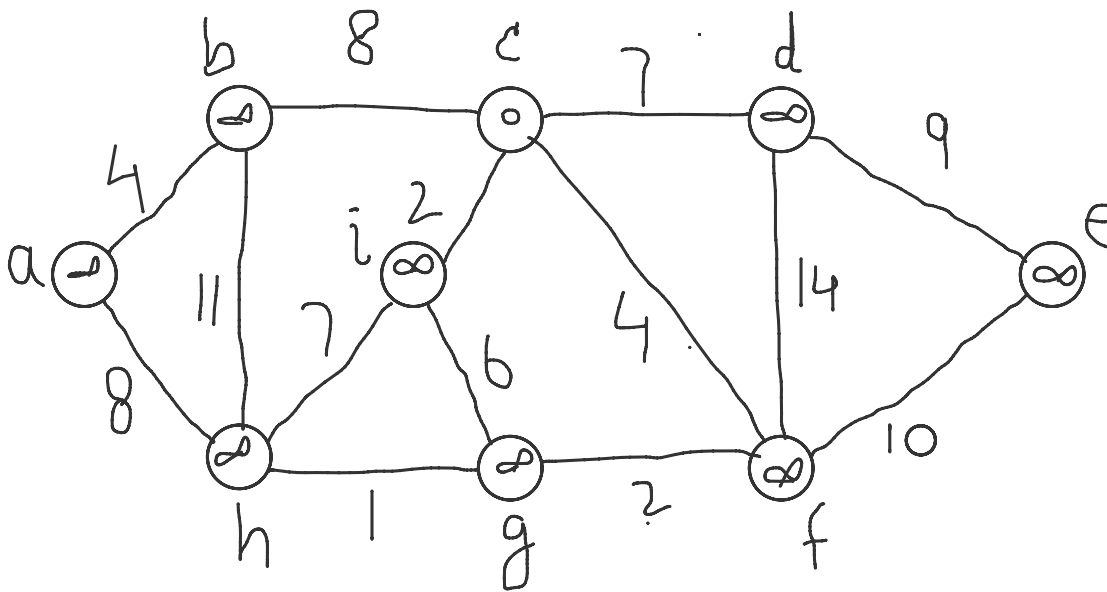


Friday, January 22, 2021 10:04 PM

1. for each $u \in G.V$ $O(|V|)$
2. $u.key = \infty$
3. $u.\pi = NIL$
4. $r.key = 0$
5. $Q = G.V$ //Min. Priority Queue $O(|V| * \log(|V|)) \mid O(|V|)$
6. while $Q \neq \emptyset$
7. $u = \text{EXTRACT-MIN}(Q)$ $O(|V| * \log(|V|))$
8. for each $v \in G.Adj[u]$ $O(|E|)$
9. if $v \in Q$ and $w(u, v) < v.key$
10. $v.\pi = u$
11. $v.key = w(u, v)$ $O(|E| * \log(|V|))$

$O((|E| + |V|) * \log(|V|)) = O(|E| * \log(|V|))$

[illegible]