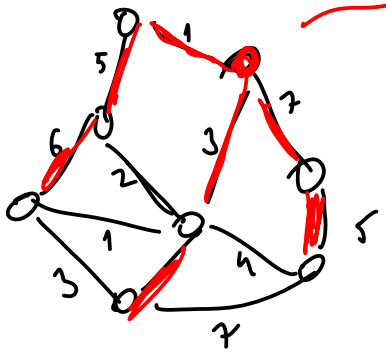


→ Spanning Tree

Prim's MST alg.

Kruskal's MST alg.

$|V| = 7$

$E_{ord} = c\ e\ d\ j\ a\ h\ b\ g\ k\ f\ i$

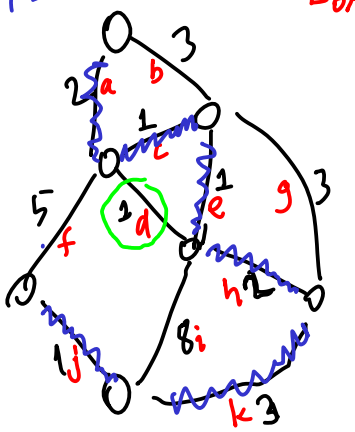
$E_{rest} = E_{ord}$

6 edge = 7 − 1

$E' = \{c, e, j, a, h, k\}$

$|V| = n$

$|E| = m$

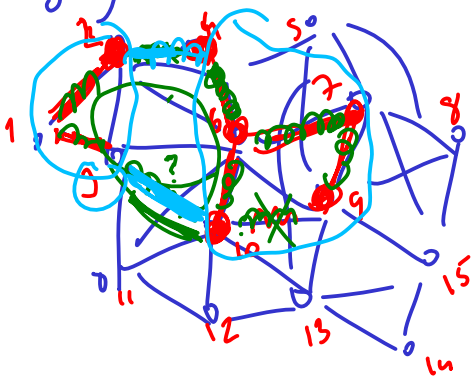


$O(m \lg m)$ $O(n)$

Tree $n \rightarrow$ Edge $n-1$

$O(n \lg n)$

$m >> n$



Kruskal MST

[Sorting $O(m \lg n)$

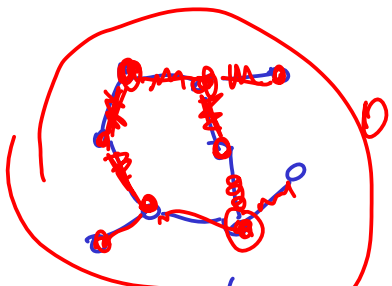
loop $O(m)$

for any edge we "check whether it introduces a cycle"

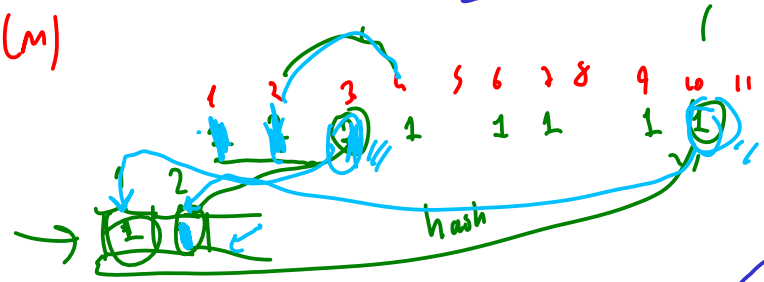
$O(m)$ $O(\log n)$

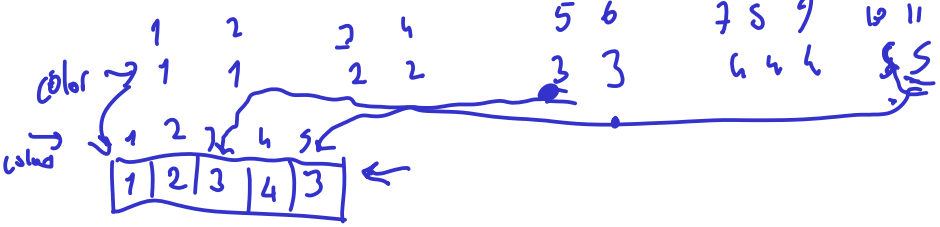
$O(m \lg m)$

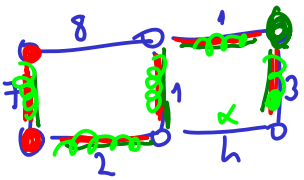
$O(n^2)$



$O(n)$






8
1
1
3
2
4