

Dijkstra

Worst case $\log(E)$

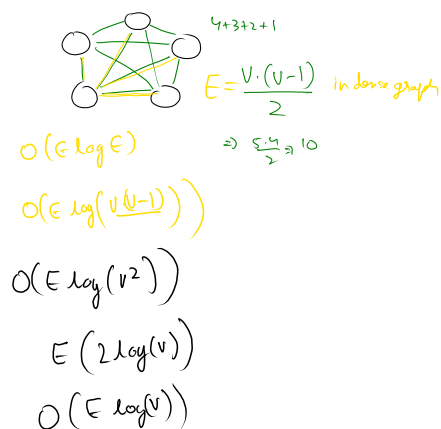
// Remove $\rightarrow \log(E)$

// Push $\rightarrow O(1)$

// Pop $\rightarrow O(1)$


$\log(n \cdot \log(n) \cdot \log(n)) \rightarrow \log(E)$

$$\begin{aligned} & 5 \\ & \alpha(\log n) \\ & E(2 \cdot \log E) \\ & \alpha(E \log E) \\ & \Downarrow \\ & O(E \log V) \end{aligned}$$



18 Bipartite


I A graph is bipartite if we can divide all nodes into 2 mutually exclusive & exhaustive sets such that edges are across set.



sub1 sub2

0	1
2	3
4	5
6	7

is Bipartite



sub1 sub2

0	1
2	3
4	5

is Bipartite

+ Bäume
 + flach
 + ~~un~~ ~~sch~~
 + Add unabh. Nbr.

$1 \rightarrow$ Bäume
 $-1 \rightarrow$ End

(b) n in $\frac{1}{1}, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}$

(c)

n

$[0 \text{ --- } n-1]$

$[-n \text{ --- } n+1]$

$[\text{ // } \text{ --- } n]$

5) If the graph is having any odd length cycle, then graph will not be bipartite.

III

IV