

Let's begin at 9:02 PM

L88
Graphs Problem Solving 2

Join Discord - <https://bit.ly/ly-discord>

Practice! Let's aim for 3 problems again.

1. Cutting Wires

Question

1. Given N computers & M pairs of computers in b/w which there is a direct connection.
2. Now, for the next D days, everyday a spy cuts the wire b/w a pair of computers. Basically, D lines of input will be given, where each line will contain $C1_i$ & $C2_i$
3. We need to print D numbers i.e. after each day, how many different networks of computers will be there?

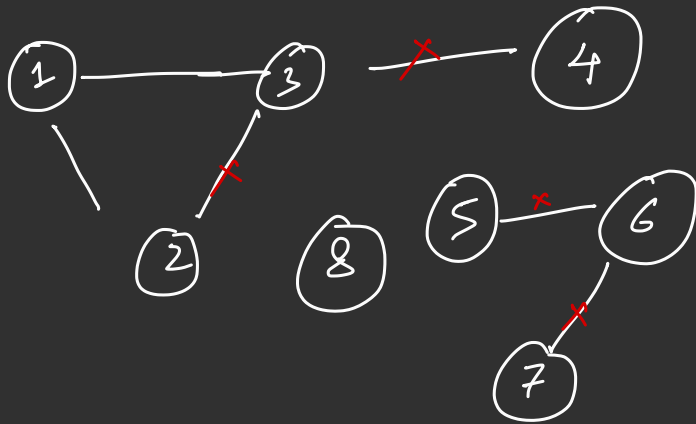
$$1 \leq N \leq 10^5$$

$$1 \leq M \leq \min(10^5, {}^N C_2)$$

$$1 \leq D \leq M$$

$$1 \leq C1_i, C2_i \leq N$$

$N = 8, M = 6$



$D = 4$

5 6 | 3 4 | 2 3 | 6 7

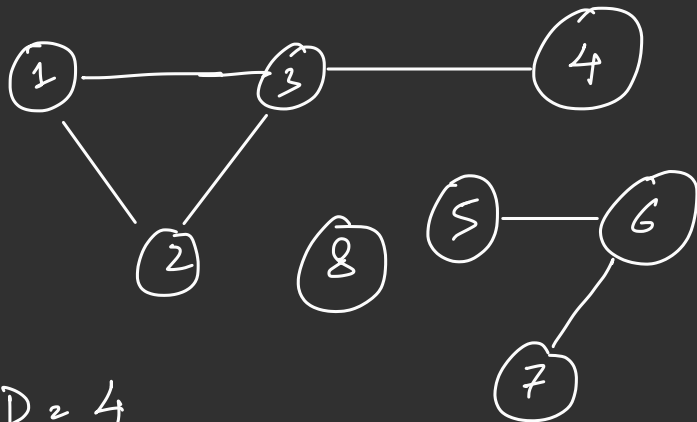
4

5

5

6

Intuition / Solution



$D = 4$

5	6		3	4		2	3		6	7
4			5			5			6	

Let's Implement

$$1 \leq N, M \leq 10^5$$

2. Minimize Path Cost

Question

directed



1. In a given weighted graph, the cost of a path is defined as the maximum weight of edge out of all the edges that come in the path.
2. Given a *src* and a *dest*, find the minimum possible cost to go to *dest* from *src*. Print -1 if there is no path possible.

Intuition / Solution

(undirected)

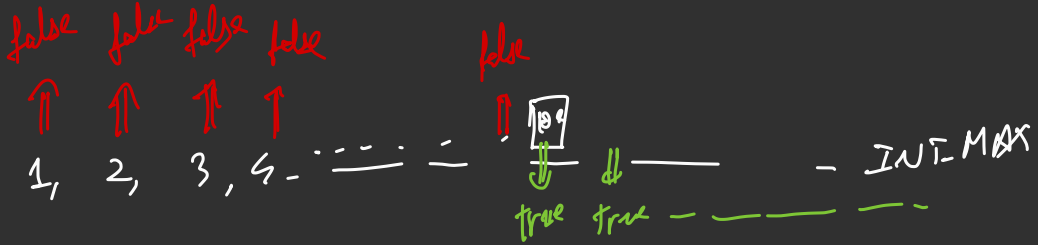
Sort the edges in inc. of weight.

One by one, start adding edges to graph.

As soon as src & dest become part of the same comp., the weight of last added edge \Rightarrow ans.

(directed)

$$1 \leq w_i \leq \text{INT_MAX}$$



Find smallest K s.t. there is a
possible path with $\text{cost} \leq K$

Let's Implement

Thank You!

Reminder: Going to the gym & observing the trainer work out can help you know the right technique, but you'll muscle up only if you lift some weights yourself.

So, PRACTICE, PRACTICE, PRACTICE!