

Conectividad

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Training Camp 2025



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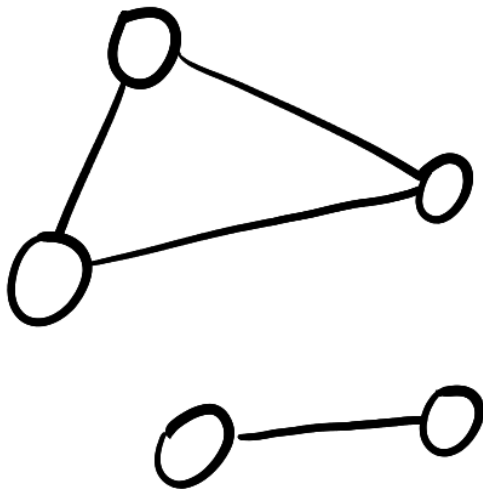
Oro

 JERÁRQUICOS

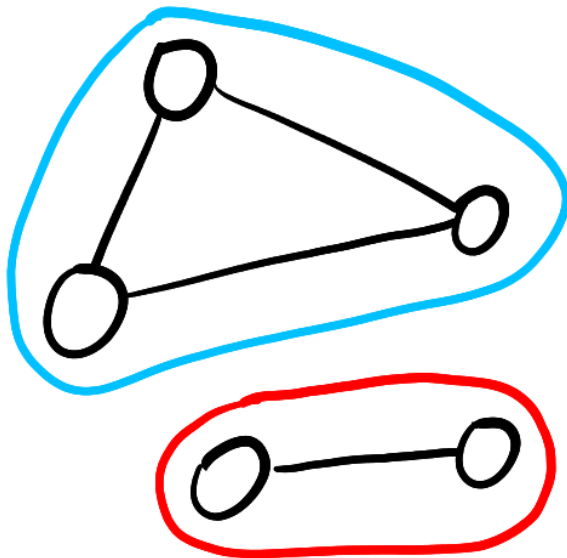
Aliado



Componentes Conexas



Componentes Conexas

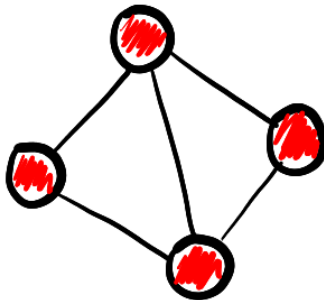
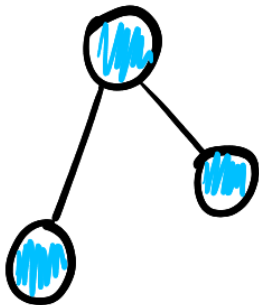


Cómo se computan?

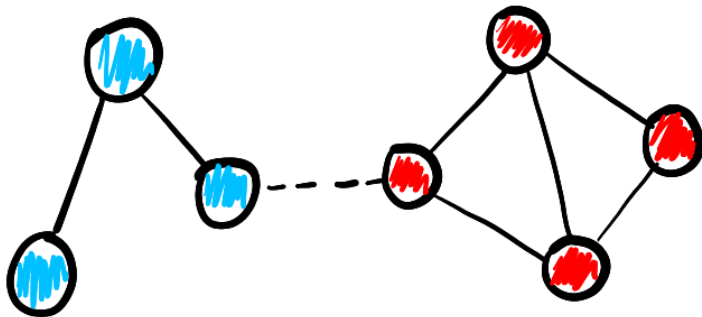
Union-Find Problem

- Agregar aristas.
- Decidir si dos nodos están conectados.

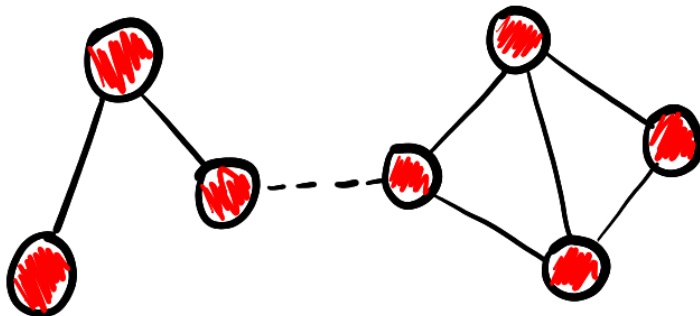
Union-Find



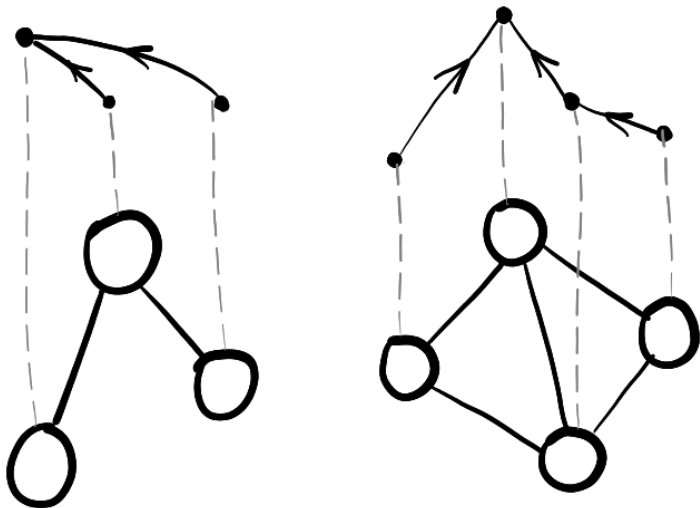
Union-Find



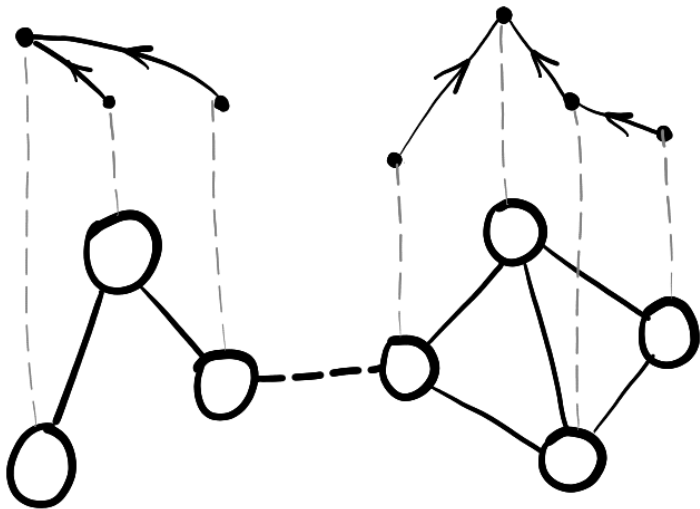
Union-Find



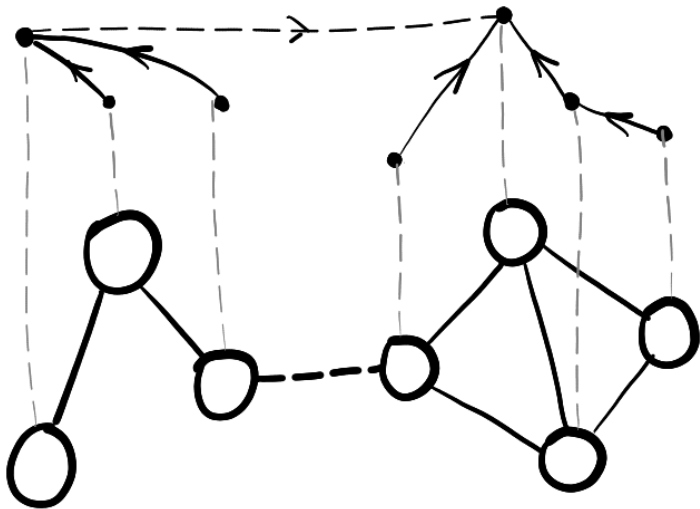
Union-Find



Union-Find



Union-Find

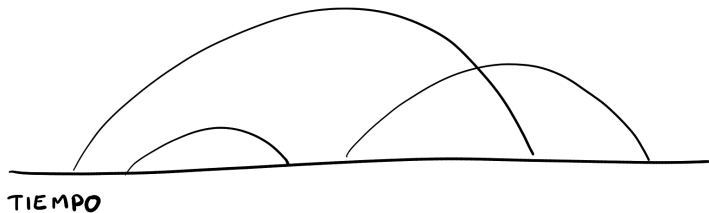


<https://codeforces.com/problemset/problem/1081/D>

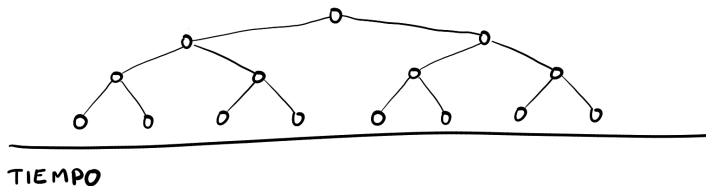
Dado un grafo pesado G con k nodos marcados, encontrar para cada uno, uno de los que está más lejos en distancia min-max.

- Agregar aristas.
- *Sacar aristas*
- Decidir si dos nodos están conectados.

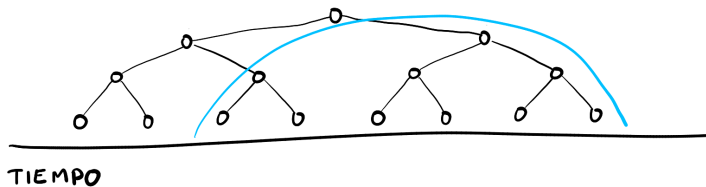
Offline Dynamic Connectivity



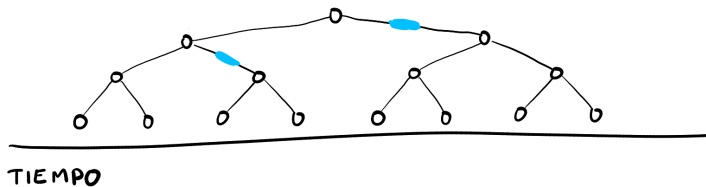
Offline Dynamic Connectivity



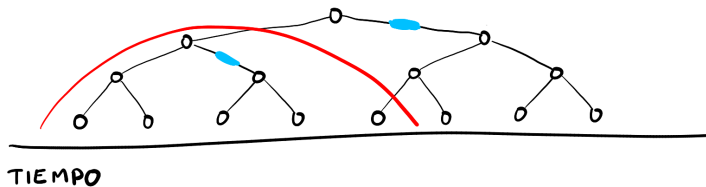
Offline Dynamic Connectivity



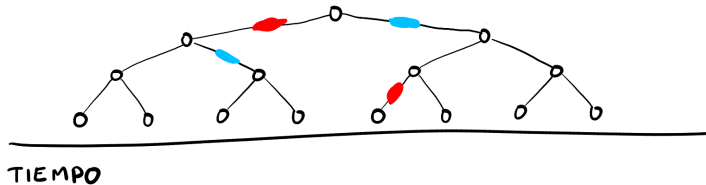
Offline Dynamic Connectivity



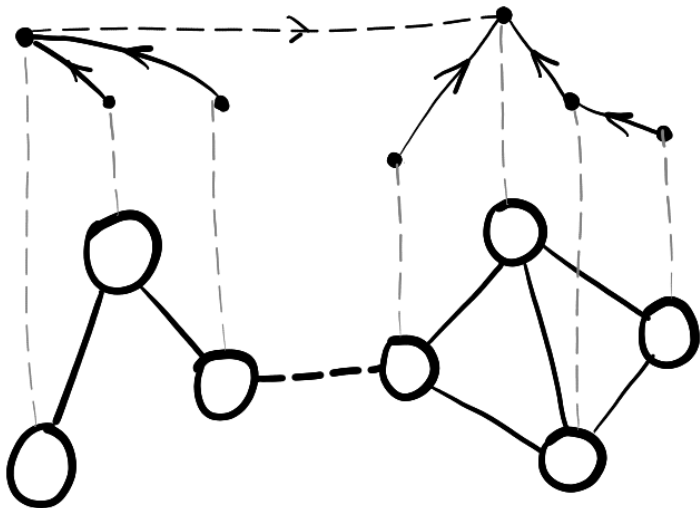
Offline Dynamic Connectivity



Offline Dynamic Connectivity



Online Dynamic Connectivity

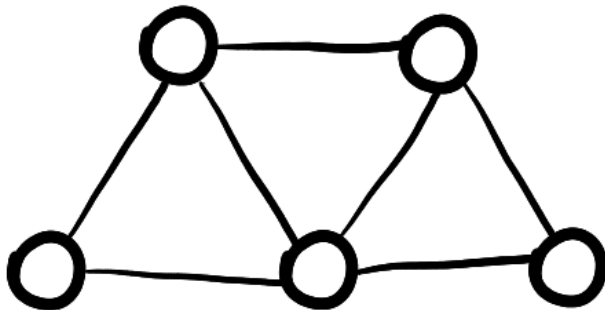


Se tiene un tablero de $5 \times n$

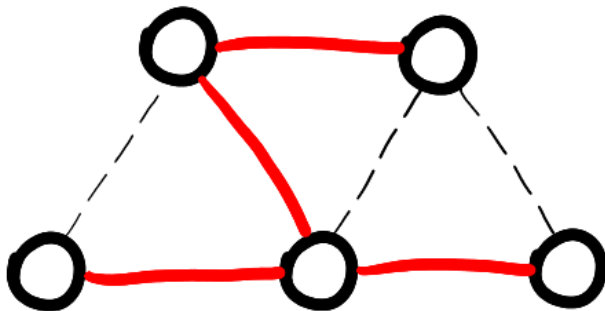
- Operaciones de bloquear celdas
- Operaciones de desbloquear celdas
- Preguntas de si puedo llegar de una celda a otra

Se tiene un grafo G , y queries de si un conjunto de aristas se puede extender a un MST.

Online Dynamic Connectivity



Online Dynamic Connectivity



1st Universal Cup problem G

Se tiene un grafo G y queries de la forma: se puede llegar de s a t sin usar los ejes $e_1, e_2, \dots, e_k$?

Consultas?