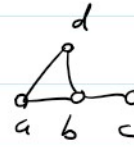


Cluster deletion

9 novembre 2021 12:49

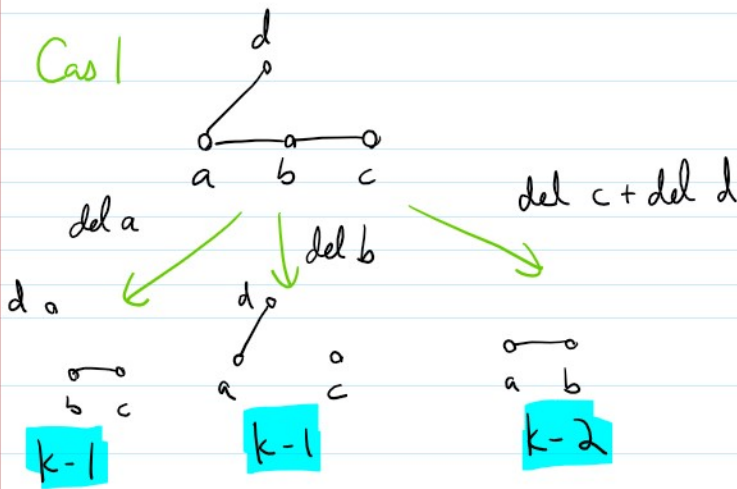
- Idée: ① On trouve un P_3 $a \text{---} b \text{---} c$
- ② On trouve d lié à un de a, b ou c
(si ce d n'existe pas, facile)



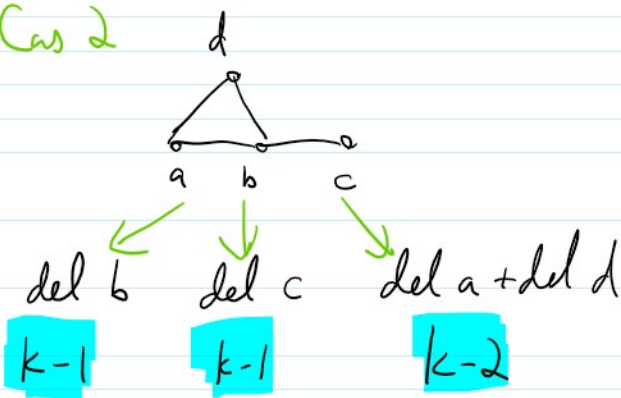
- ③ Il y a 7 façons que d soit lié à a, b, c ,
et 5 sont non-symétriques.

Selon le cas qui se présente, on branche
sur les façons de tuer les P_3 qui impliquent a, b, c, d

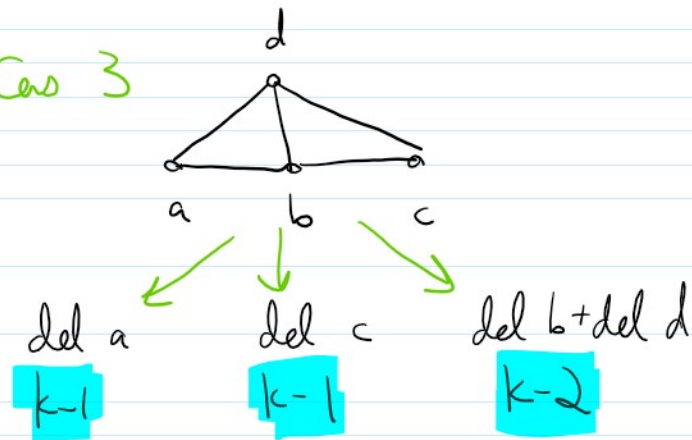
Cas 1



Cas 2

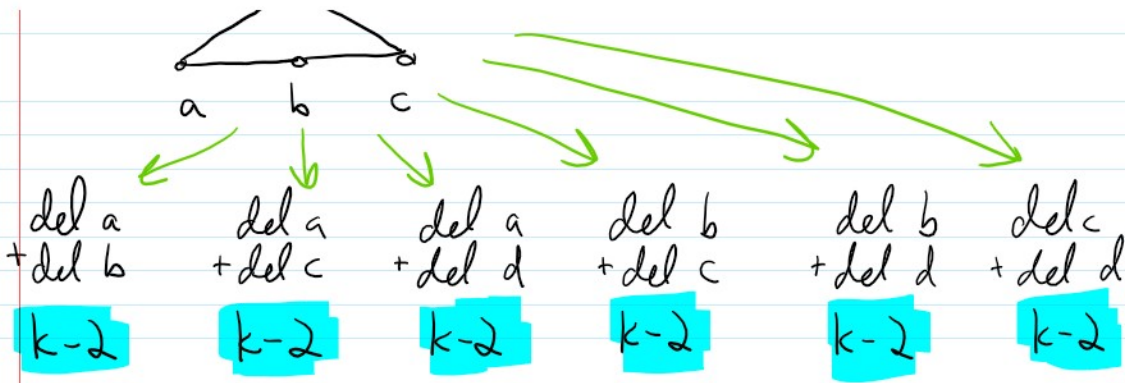


Cas 3

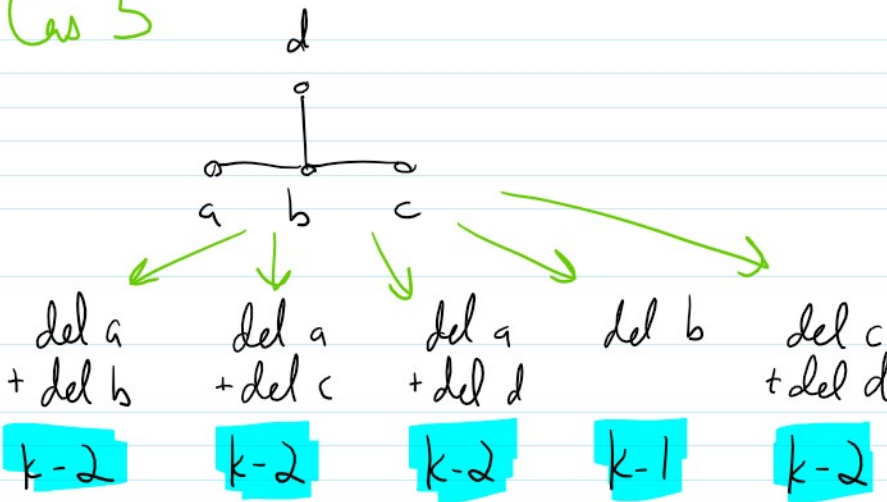


Cas 4





Cas 5

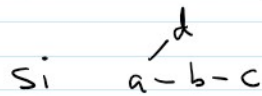


$cl_{del}(G, k)$

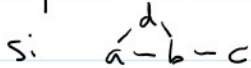
⋮

soit a, b, c un P_3

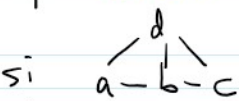
soit $d \in N(a) \cup N(b) \cup N(c)$



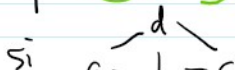
Cas 1 $\rightarrow f(k) = 2f(k-1) + f(k-2)$



Cas 2 $\rightarrow f(k) = 2f(k-1) + f(k-2)$



Cas 3 $\rightarrow f(k) = 2f(k-1) + f(k-2)$



$$\begin{array}{l} | \text{ Cas 3} \rightarrow f(k) = 2f(k-1) + f(k-2) \\ \text{Si } \begin{array}{c} \text{d} \\ \text{a} - \text{b} - \text{c} \end{array} \end{array}$$

$$\begin{array}{l} | \text{ Cas 4} \rightarrow f(k) = 6f(k-2) \\ \text{Si } \begin{array}{c} \text{d} \\ \text{a} - \text{b} - \text{c} \end{array} \end{array}$$

$$\begin{array}{l} | \text{ Cas 5} \rightarrow f(k) = f(k-1) + 5f(k-2) \end{array}$$

Quel cas on prend pour analyser? le pire.

$$f(k) = 2f(k-1) + f(k-2) \rightarrow O(2.41^k)$$

$$f(k) = 2f(k-1) + f(k-2) \rightarrow O(2.41^k)$$

$$f(k) = 2f(k-1) + f(k-2) \rightarrow O(2.41^k)$$

$$f(k) = 6f(k-2) \rightarrow O(2.45^k)$$

$$f(k) = f(k-1) + 5f(k-2) \rightarrow O(2.79^k)$$

On suppose que le pire cas #5 se présente à chaque récursion

$$\Rightarrow O(2.79^k \cdot n^c)$$