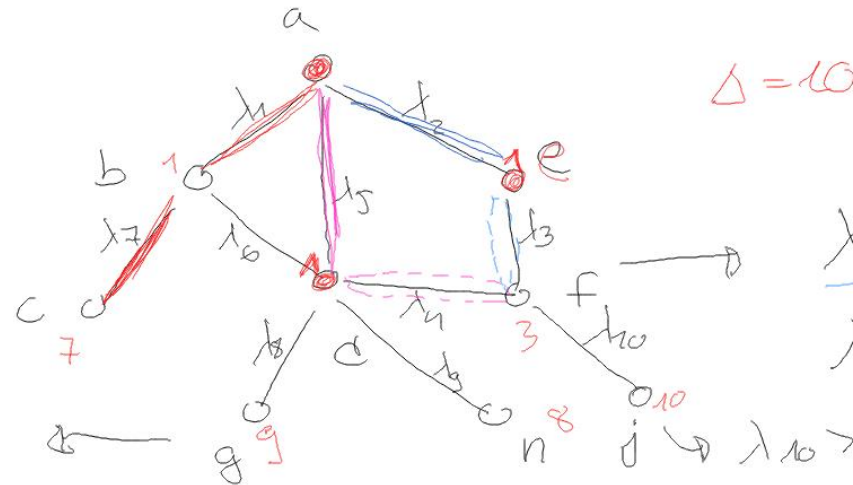
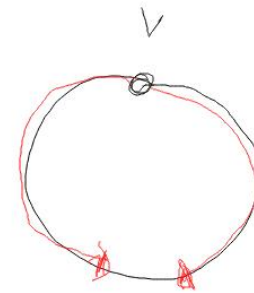


INPUT: D - fastest distances, Δ - period of \forall edge.
 OUTPUT: Labeling (if exists) st. \forall edge gets assigned exactly 1 label.

underlying graph = $\left\{ \begin{array}{l} \text{-- cycle} \\ \text{-- tree} \\ \text{-- star, path} \end{array} \right\}$ POLY. TIME

what happens in general graphs??



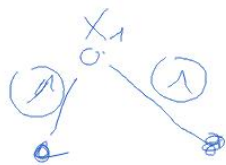
$\Delta = 10$

$\lambda_3 \geq \lambda_2 + 2$
 $\lambda_4 \geq \lambda_5 + 2$ } one has to be equal
 $\lambda_{10} \geq \lambda_3 + 7$ $\lambda_{10} \geq \lambda_4 + 7$

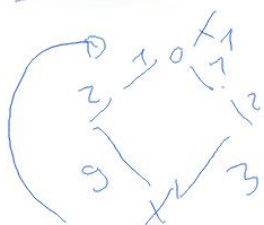
$$\lambda_8 \geq \lambda_5 + 8$$

$$\triangle = \infty$$

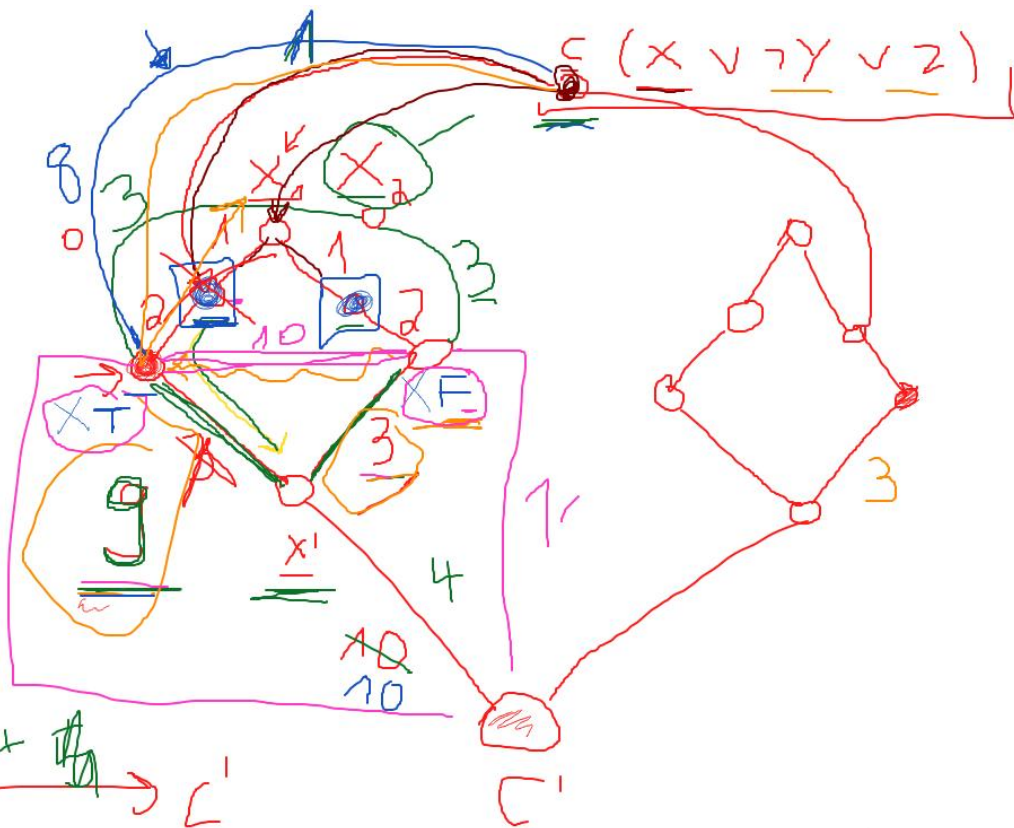
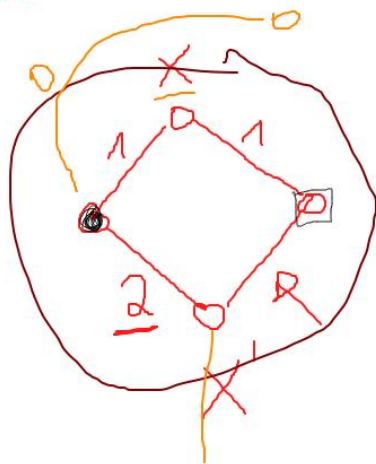
2



$$\boxed{\Delta + 1}$$



$$\Delta=10 \quad 9 \rightarrow 12 \rightarrow 21 = 21 - 9 + 1 = \underline{\underline{13}}$$



$$C \xrightarrow{4} C'$$

$$\boxed{\begin{matrix} X_T \rightarrow C' \\ X_F \rightarrow C' \end{matrix}} \quad (x_T x'_2)$$

