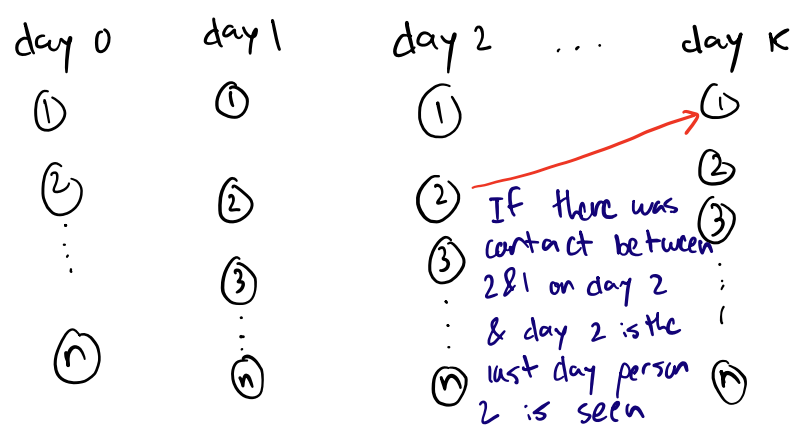


Contact Tracing

- First observation is that a person who catches the infection goes through 3 stages Caught, infectious, quarantine
- Since each infected person may or may not infect who they come in contact with the problem seems a bit tricky
- However we know that when someone Quarantines they will never be seen this means if a makes contact with b on day 1 then they couldn't be sick at day 4.
- If we store the last day each person made a contact then it's only possible they got infected at day -1

- From this observation we can build a graph as follows



1. Store last time person x made contact with anyone
2. If we have the following contact (a, b, d) [from the input to the problem] if d is a's last contact we add the edge $(a, d-1) (b, d)$ & similarly if it's b's last contact add edge $(b, d-1) (a, d)$
3. know if there exists at least one path from nodes $(X, 0)$ to (Y, K) then K is someone who must Quarantine

For sample 1

* To obtain the answer just dfs from all day 0 nodes & keep a set of all day K nodes which are reachable

