

- There are  $n \leq 10^5$  people living in an apartment, but they only have  $k (\leq n)$  keys to share.
- If a person comes home while someone is home, they will be let in. Otherwise, they need a key.
- Given the times when each person is out, determine when each person should take a key with them.



The DOMjudge team working in a shared flat.  
Photo provided by the DOMjudge team

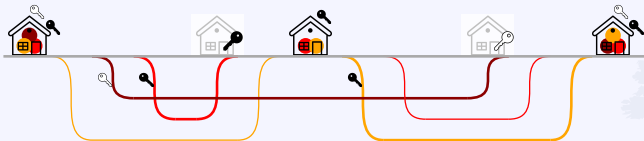


Illustration of Sample Input 1, with 3 people, 2 keys, and a total of 5 trips.  
Trips where the person brings a key are shown in bold. Twice, a person comes home to an empty house and has to use their key to open the door.