

Thanos is the leader of a telepathic group consisting of n subordinates, each labeled from 0 to $n-1$. Thanos and his subordinates have a telepathic connection, allowing them to send and receive messages instantly, but for each i , not everyone is directly telepathically compatible with everyone else. So a chain of telepathic transmission has to be made in some cases.

At the start of second t , all subordinates send their message to Thanos for processing and wait to reply. Thanos processes all messages received instantly and replies to the originating subordinate through the same telepathic connection.

However, not all subordinates have the same level of patience. Each subordinate is assigned a value called "patience", which determines the frequency at which they will resend their message to Thanos if they have not yet received a reply. For example, if a subordinate has a patience value of 3 seconds, they will resend their message every 3 seconds if they have not yet received a reply from Thanos.

The telepathic group is considered to be "idle" when there are no messages being sent or received between Thanos and his subordinates. The goal is to determine the earliest second at which the telepathic group becomes idle.

