Name: Hongze Xu

I have read and agree to the collaboration policy. Hongze Xu.

Consider the base case, there is only 1 magenta and 0 turqoise. After the explorer's remark, It's clear that the only one magenta will know she/he is the magenta, and die.

If there are 2 magentas, the 1st person will know that the 2nd person is magentas and the 2nd person will also know 1st is magentas. At first day, they cannot determine if theselves are magentas, but at the 2nd day, they notice that each other don't die at first day. So, they can conclude that they are magentas and die at 2nd day.

If there are 3 magentas, similarly, the person will see other two magentas persons, and wait for 2 days, they all don't die. So he/she can confirm that he/she is magentas. At the same time, each one who has magentas will notice it at 3rd day. So all people will die at 3rd day.

Inductionally, we can see that for n magentas people, they will all be able to confirm that they are magentas at the nth day. They all die after the n days.