

Save Rapunzel - III

Flynn's team is now on the way to save Rapunzel from the witch. But the witch has invited her friends to battle Flynn and his team. But upon seeing Flynn's team, the witches are now afraid. Using their magical power, they have constructed N castles. Each of the castles has a secret teleporting portal to another castle. They can only use that castle if the other castle does not contain any witches. They hid in the castles. These castles are on the other side of the mountain. When Flynn and his team arrived at the top of the hill, they saw all the castles.

Interestingly they saw some of the witches peeking out of the windows. And in some castles, there was no sign of the witches. But they can't decide whether there are witches in the rest of the castles. Within one of those castles, they would hold Rapunzel.

So out of love, Flynn ran from one castle to another, starting from 1 to N . The leader stood with the team and noticed something. When Flynn was passing each castle, the witches started to teleport. When he was at the last castle, he was out of breath. He looked at his leader. The leader is a mathematician and an excellent programmer who competed at MoraXtreme 7.0. (Please don't ask how) The leader started calculating the possibility of having a witch in the last castle out of all the possibilities. If the witch is trapped at the last castle, then the witch cannot teleport to another one allowing Flynn to go in and kill that witch in the last castle. As the leader, can you figure out the count?



Input Format

The first line contains the number of test cases T. Each test case contains three lines. The first line contains N The second line contains a string indicating whether there is a witch in the castle, there is no sign of the witch or there is no witch at all. "W" indicates the availability of the witch. "N" indicates there is no sign of the witch. "D" indicates the leader can't ensure there is a witch in that castle or not. The third line contains integers. The ith integer indicates the castle it is connected to.

Constraints

$$1 \leq N \leq 10^4$$

$$1 \leq T \leq 5000$$

The portals are unidirectional

Output Format

Output the number of possibilities that there will be a witch trapped in the last castle. Print the output taking modulo of $10^9 + 7$

Sample Input 0

```
1
5
WNDDW
3 3 2 1 1
```

Sample Output 0

```
3
```

Explanation 0

Possible configurations.

- 1. WNNNW => When Flynn gets to the first castle, the witch in the first castle teleports to the third castle. When he goes to the third castle, she again teleports to the second castle. When he reaches the last castle, the witch will teleport to the first castle since it is free.
- 2. WNWNW => When Flynn passes the first castle, the witch will remain in the first castle. When he passes the third castle, The witch will teleport to the second castle. When he reaches the final castle, the witch will be trapped and can be killed.
- 3. WNNWW => When Flynn passes the first castle, the witch will teleport to the third castle. When he passes the Fourth castle, the witch will teleport to the first castle. When he reaches the final castle, the witch will be trapped and can be killed.
- 4. WNWWW => In this configuration, the witch, will be trapped in the castle.

So in total, out of the four possibilities, in three scenarios, the witch will be in the last castle.