Problem H: Tricky Switches

Link is navigating his way through a dungeon, looking for one of the Spiritual Stones which will allow him to enter the Sacred Realm and claim the Triforce before Ganondorf can use it to increase his power.

On the way, Link comes upon a row of switches which work in an interesting way. Whenever a switch is flipped, the switches next to it are automatically flipped as well.

For example, suppose there are 4 switches, and they all start in the off position:

1	**2**	**3**	**4**
Off	Off	Off	Off

Now suppose that Link pulls switch 1. That will turn that switch on and also flip the adjacent switch (number 2) to on as well:

1	**2**	**3**	**4**
On	On	Off	Off

If he pulls switch 3 next, then it will be on. It will also flip switches 2 and 4 because they are adjacent, giving this:

1	**2**	**3**	**4**
On	Off	On	On

In order to pass through the dungeon, Link needs to get all switches into the On position. He also wants to do so by pulling as few of the switches as possible.

You will write a program that will be given the number of switches, along with their initial configuration. From that you must determine the minimum number of pulls required to get all the switches on. Some initial configurations have no possible solution. In that case, your program should let Link know the puzzle is impossible.

Input

The first line of input is an integer N, such that $2 \leq N \leq 10$. Following this will be N lines which give the initial state of the switches. Each line will contain either the word “On” or “Off”. The first line corresponds to switch 1, the second to switch 2 and so on.

Output

Output should consist of 1 line. If Link can solve the switch puzzle, this line should say “Link must pull K switches.”, where K is the minimum number of switches needed to set all switches to On. If there is no solution, the line should say “There is no solution.”

Sample Input 1

```
3
On
Off
On
```

Sample Output 1

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Link must pull 3 switches.
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Sample Input 2

```
2
Off
On
```

Sample Output 2

```
There is no solution.
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