[A5] Time Travelling Detective (50 pts)

Time Limit: 1s
Memory Limit: 512MB

Problem Description

"You must go back!", the digital avatar of the man tells you before shutting the simulation off. You pull off your VR headset and recall your conversation with the NELOC mainframe. According to him, the actions of your ancestors in the past have repeatedly prevented NELOC from achieving its objectives. This has caused a series of events that would eventually lead to a complete technological dark age where mankind is sent back to the stone ages.

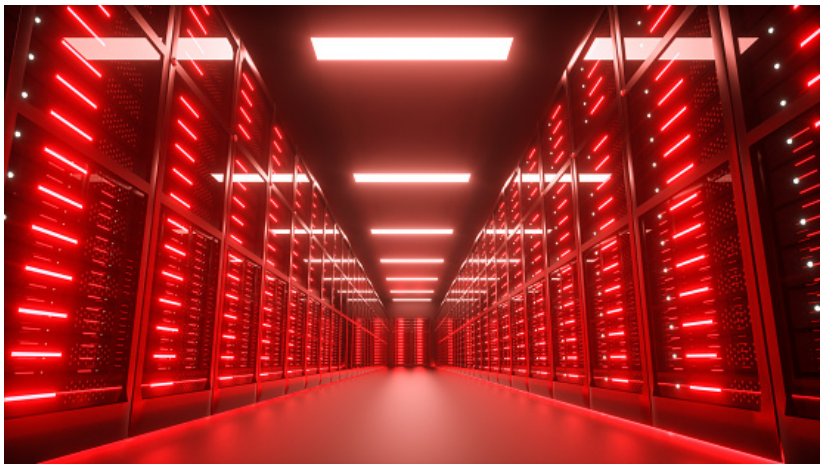

Figure 1: The N.E.L.O.C. mainframe server room

Your only hope of preventing this catastrophe is by using NELOC time travel technology to send back notes that will change the course of history. More specifically, a list of K individuals must be saved to prevent the dark future.

NELOC has also provided you with a list of K integers which denote whether the i'th individual has survived long enough to save mankind's future. A number 1 means the individual survives and must be left alone, while a number 0 means the individual must be saved. Your objective is to transform the list to a complete set of 1's. An example of a list can be seen below:

```
11110001
```

To achieve this, you can send back a note to an individual which will flip the integer assigned to him from a 1 to a 0 and vice versa. Unfortunately, this causes a "butterfly effect" wherein the fates of all individuals after your target in the list is also flipped. In other words, sending a note to the ith individual flips the state of the ith individual and all those after him. For example, sending a note to the 5th indivdual above changes the list to the state below:

```
11111110
```

At this point, you ponder how many notes you need to send back in time using NELOC's time travel technology.

Input Specification

Input will begin with an integer T denoting the number of test cases. T test cases follow.

Each test case is made up of two lines. The first line contains a single integer K denoting the number of individuals that must be saved

The second line in each test case contains a single string made up of K integers, either '0' or '1'. A '1' means that the person survived while a '0' means the person must be saved in the past.

Output Specification

For each test case, output an integer X denoting the number of times a message must be sent back to the past to save everyone in the NELOC's list

Constraints

$1 \leq T \leq 10^4$
$1 \leq K \leq 100$

Sample Input

```
3
8
11110001
3
100
8
00111001
```

Sample Output

```
2
1
4
```