A. Angry Students

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

It's a walking tour day in SIS.Winter, so t groups of students are visiting Torzhok. Streets of Torzhok are so narrow that students have to go in a row one after another.

Initially, some students are angry. Let's describe a group of students by a string of capital letters "A" and "P":

- "A" corresponds to an angry student
- "P" corresponds to a patient student

Such string describes the row from the last to the first student.

Every minute every angry student throws a snowball at the next student. Formally, if an angry student corresponds to the character with index i in the string describing a group then they will throw a snowball at the student that corresponds to the character with index $i + 1$ (students are given from the last to the first student). If the target student was not angry yet, they become angry. Even if the first (the rightmost in the string) student is angry, they don't throw a snowball since there is no one in front of them.

Let's look at the first example test. The row initially looks like this: PPAP. Then, after a minute the only single angry student will throw a snowball at the student in front of them, and they also become angry: PPAA. After that, no more students will become angry.

Your task is to help SIS.Winter teachers to determine the last moment a student becomes angry for every group.

Input

The first line contains a single integer t — the number of groups of students ($1 \le t \le 100$). The following $2t$ lines contain descriptions of groups of students.

The description of the group starts with an integer k_i ($1 \le k_i \le 100$) — the number of students in the group, followed by a string s_i, consisting of k_i letters "A" and "P", which describes the i-th group of students.

Output

For every group output single integer — the last moment a student becomes angry.

Examples

input
```
1
4
PPAP
```

output
```
1
```

input
```
3
12
APPAPPPAPPPP
3
AAP
3
PPA
```

output
```
4
1
0
```

Note

In the first test, after 1 minute the state of students becomes PPAA. After that, no new angry students will appear.

In the second tets, state of students in the first group is:

- after 1 minute — AAPAAPPAAPPP
- after 2 minutes — AAAAAAPAAAPP
- after 3 minutes — AAAAAAAAAAAP
- after 4 minutes all 12 students are angry

In the second group after 1 minute, all students are angry.