Kirito and the Magic Spell

Assignment 2
Computer Programming
Due date: 12 October, 2018

Problem Statement: Kirito and his friends set out on a quest to retrieve the magic item, Excalibur, which is buried deep inside the ancient ruins crawling with monsters. To enter the ruins, the team needs to activate an N-length magic sequence which comprises a series of 'a's and 'd's denoting activation and deactivation of the spell. Kirito's team has limited magic power and hence can make a total of M actions. An action is defined as:
1) Changing an element from 'a' to 'd' or
2) Changing an element from 'd' to 'a'.
Given N, M and the sequence, output the maximum length of consecutive a's that can be formed.

Input
The first line of input comprises of T, no. of testcases. For every testcase: the first line comprises three integers N, M denoting the length of the sequence, the maximum number of actions possible.
The second line consists of the sequence.
Output
output for every test case a single integer denoting the maximum length.

Constraints
$1 \leq T \leq 30$
$1 \leq N \leq 10^6$
$0 \leq M \leq N$

Time Limit: 1 sec
Memory Limit: 256 MB

Sample Test Case

Input	Output
1 11 2 aadaddadaaa	6

Explanation
We can activate spells at indices 5 and 7 to form the new sequence: aadadaaaaaa which has 6 consecutive 'a's.