

Problem B. The Cost

Time limit 2000 ms

Mem limit 262144 kB

You are given a string s of length n consisting only of the characters 0 and 1.

You perform the following operation until the string becomes empty: choose some **consecutive** substring of **equal** characters, erase it from the string and glue the remaining two parts together (any of them can be empty) in the same order. For example, if you erase the substring 111 from the string 111110, you will get the string 110. When you delete a substring of length l , you get $a \cdot l + b$ points.

Your task is to calculate the maximum number of points that you can score in total, if you have to make the given string empty.

Input

The first line contains a single integer t ($1 \leq t \leq 2000$) — the number of testcases.

The first line of each testcase contains three integers n , a and b ($1 \leq n \leq 100$; $-100 \leq a, b \leq 100$) — the length of the string s and the parameters a and b .

The second line contains the string s . The string s consists only of the characters 0 and 1.

Output

For each testcase, print a single integer — the maximum number of points that you can score.

Sample 1

Input	Output
3 3 2 0 000 5 -2 5 11001 6 1 -4 100111	6 15 -2

Note

In the first example, it is enough to delete the entire string, then we will get $2 \cdot 3 + 0 = 6$ points.

In the second example, if we delete characters one by one, then for each deleted character we will get $(-2) \cdot 1 + 5 = 3$ points, i.e. 15 points in total.

In the third example, we can delete the substring `00` from the string `100111`, we get $1 \cdot 2 + (-4) = -2$ points, and the string will be equal to `1111`, removing it entirely we get $1 \cdot 4 + (-4) = 0$ points. In total, we got -2 points for 2 operations.