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C. A-B Palindrome

time limit per test: 2 seconds memory limit per test: 256 megabytes input: standard input output: standard output

You are given a string s consisting of the characters '0', '1', and '?'. You need to replace all the characters with '?' in the string s by '0' or '1' so that the string becomes a palindrome and has **exactly** a characters '0' and **exactly** b characters '1'. Note that each of the characters '?' is replaced independently from the others.

A string t of length n is called a palindrome if the equality t[i] = t[n-i+1] is true for all i ($1 \leq i \leq n$).

For example, if s = 01??????0, a = 4 and b = 4, then you can replace the characters '?' in the following ways:

item "010"; item "0110".

For the given string s and the numbers a and b, replace all the characters with '?' in the string s by '0' or '1' so that the string becomes a palindrome and has **exactly** a characters '0' and **exactly** b characters '1'.

Input

The first line contains a single integer t ($1 \le t \le 10^4$). Then t test cases follow.

The first line of each test case contains two integers a and b ($0 \le a, b \le 2 \cdot 10^5$,

The second line of each test case contains the string s of length a+b, consisting of the characters '0', '1', and '?'.

It is guaranteed that the sum of the string lengths of s over all test cases does not exceed $2 \cdot 10^{5}$.

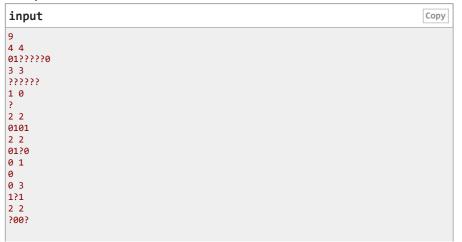
Output

For each test case, output:

- "-1", if you can't replace all the characters '?' in the string s by '0' or '1' so that the string becomes a palindrome and that it contains **exactly** a characters '0' and **exactly** bcharacters '1';
- the string that is obtained as a result of the replacement, otherwise.

If there are several suitable ways to replace characters, you can output any.

Example









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