And Revive The Melody

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

Setsuna is studying music theory. There are n distinct pitches, numbered $1, 2, \cdots, n$. *Setsuna* wants to compose a melody P in which every pitch appears exactly once. We call a sub-melody Q **compact** if and only if there exist integers $l \leq r$ such that the set of pitches appearing in Q is exactly $\{l, l+1, \cdots, r\}$.

To compose the harmony, *Setsuna* specifies some requirements using two strings a, b, each of length n:

- For the sub-melody $P[1, i]$ consisting of the first i pitches:
  - If $a_i =$ `1`, this sub-melody must be compact.
  - If $a_i =$ `0`, this sub-melody must not be compact.
  - If $a_i =$ `?`, there is no restriction on this sub-melody.
- For the sub-melody $P[i, n]$ consisting of the last $n + 1 - i$ pitches:
  - If $b_i =$ `1`, this sub-melody must be compact.
  - If $b_i =$ `0`, this sub-melody must not be compact.
  - If $b_i =$ `?`, there is no restriction on this sub-melody.

After solving Don't Fight The Music, *Setsuna* wants to enumerate all melodies that satisfy the requirements. You need to help *Setsuna* find the number of such melodies so that she can check her result. Since the answer may be large, output it modulo 998244353.

Input

This problem contains multiple test cases.

The first line contains a positive integer T ($1 \leq T \leq 10^4$), representing the number of test cases.

For each test case:

- The first line contains an integer n ($2 \leq n \leq 2 \times 10^5$).
- The next two lines each contain a string of length n, namely a and b.

It is guaranteed that the sum of n over all test cases does not exceed 2×10^5, and that the strings contain only the characters `1`, `0`, and `?`.

Output

For each test case, output one line containing an integer representing the answer.

Example

standard input	standard output
4 2 ?1 1? 3 ??? 0?? 4 ??1? ?0?? 5 1??01 10??1	2 0 8 36

Note

For the third test case, all melodies that satisfy the requirements are listed below:

- $[2, 1, 3, 4]$
- $[2, 3, 1, 4]$
- $[2, 3, 4, 1]$
- $[2, 4, 3, 1]$
- $[3, 1, 2, 4]$
- $[3, 2, 1, 4]$
- $[3, 2, 4, 1]$
- $[3, 4, 2, 1]$