0100 Insertion

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

A string T is called a **good string** if it can be obtained by performing the following operation repeatedly to an initially empty string T :

- Insert the substring `0100` at any position in T.

You are given a string S of length N consisting of `0`, `1`, and `?`. Count the number of good strings that can be obtained by replacing each `?` in S with either `0` or `1`. Output the answer modulo 998244353.

Input

The input is given from Standard Input in the following format:

N
S

- $4 \leq N \leq 500$
- N is a multiple of 4.
- S is a string of length N consisting of `0`, `1`, and `?`.

Output

Print the answer in a single line.

Examples

standard input	standard output
8 0??0?100	2
4 ?10?	1
28 ???????????0???0??????1???0?	2023

Note

In the first example, the good strings that can be obtained by replacing each `?` in S are `00100100` and `01000100`.