Problem B. Build More 2020's!

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	512 mebibytes

Byteazar got a string S $(s_1 \dots s_n)$ of length n consisting of only digits '0', '1', and '2', and he wants to pick some **disjoint** subsequences which equal to 2020, as many as possible.

Formally, Byteazar would like to find k quadruples $(a_1, b_1, c_1, d_1), \dots, (a_k, b_k, c_k, d_k)$ such as

- $1 \le a_i < b_i < c_i < d_i \le n$
- $s_{a_i} s_{b_i} s_{c_i} s_{d_i} = 2020$
- $\{a_i, b_i, c_i, d_i\} \cap \{a_j, b_j, c_j, d_j\} = \emptyset$ for $i \ne j$.

Find the maximum value of k.

Input

The input consists of several test cases terminated by end-of-file.

The first line of each test case contains an integer n $(1 \le n \le 10^5)$. Second line contains the string S $(s_1 \dots s_n)$. $(s_i \in \{0, 1, 2\})$. Sum of n in all test cases does not exceed 10^6.

Output

For each test case print an integer which denotes the result.

Examples

standard input	standard output
4 2222 7 2101210 9 122002200	0 1 2