Assignment 3 - 27/03/2023

Write the Lex program for the following :

1 Mainu's friend Maithili gave him a bag with *N* strings. All the strings are binary which are made up of 0's and 1's only. All the strings in the bag can have Odd number of 1's and even number of 0's. Now Maithili wants to know the Accepted and Rejected strings from the bag and its count also. Mainu got very confused by all this, so he asked for your help. (5M)

Input format

The first line of input contains positive integer ***N*** strings.

The second line contains ***N*** strings separated with space.

Constraints

1 <= ***N*** < = 10,000

Output format

First line of the output contains the A(Accepted), R(Rejected) and I(Invalid) strings from the bag.

The second line contains Count of the Accepted and Rejected strings.

Sample Input	**Sample Input**	**Sample Input**
4 10001 10011 asdf 1010100 **Sample output** R A I A 2 1	5 10110 1100 1000100 zrx **Sample output** A R R I 1 2	2 0101010 001110001 **Sample output** A R 1 1

2 Ehan has a set of strings S consisting of a's and b's as only characters. Ehan is a sorted person, he does not like randomness, so when he looks at the string and finds that characters in the string are in random order, he becomes frustrated. He wants to sort valid or invalid strings, based on the condition : valid string is the one whose symbols alternate between a's and b's otherwise it is invalid. And also he finds String S1 with a minimum number of symbols. (5M)

Input format

The first line of input contains strings S.

Constraints

1 <= ***S*** < = 1,000

Output format

First line of the output contains valid or invalid strings in S.

The second line contains String S1 with a minimum number of symbols from S.

Sample Input	**Sample Input**	**Sample Input**
abaaba baba ababa ababaa	10110	bba abaaa abbab babab abababababaab
Sample output	**Sample output**	**Sample output**
invalid valid valid invalid	-1	invalid invalid invalid valid invalid
4		3