Problem D. Detect Shuffling Method

Input file:	`detect.in`
Output file:	`detect.out`
Time limit:	2 seconds
Memory limit:	256 megabytes

You are working in Laboratory of Artificial Intelligence. Now you are teaching your AI to find difference between two ways of data shuffling. You have decided to use solutions of student teams from Petrozavodsk Training Camps as training data.

Consider a program in Java or C++ that solves some problem from Petrozavodsk Training Camp. Let the whole program be placed into a string s with all characters with ASCII codes less or equal to 32 (space) replaced by spaces. The length of s is between 5 to 20 kilobytes, s is appended with spaces until its length is divisible by 4.

There are two ways to shuffle a string s of length L that you have to distinguish between.

The first way is the following: pick random permutation π of numbers from 1 to L and shuffle characters in s according to π. Let us call such shuffling method "random".

The second way is the following: divide s to blocks of four consecutive characters. Pick random permutation of numbers from 1 to $L/4$ and shuffle blocks according to it. Then for each block pick random permutation of numbers from 1 to 4 and shuffle characters of this block with it. Random permutations for each block are selected independently. After that $\lfloor L/10 \rfloor$ times choose two integers from 1 to L at random and swap characters at corresponding positions. Let us call such shuffling method "block".

You are given a file with n lines, each one is either random or block shuffle of the same string s, exactly half of these lines are produced with random shuffle, the other half are produced with block shuffle. For each line identify whether it was produced with random or block shuffle. You must detect shuffling method correctly for at least 80% of lines in each test case.

Input

The first line of each input file contains n — the number of lines to follow ($10 \le n \le 100$, n is even).

Each of the following lines has the same length L from 5000 to 20000 and contains characters with ASCII codes from 32 to 126. Each of them was produced from the same string s with either random shuffle or block shuffle. Exactly $n/2$ of these lines were produced with random shuffle, another $n/2$ lines were produced with block shuffle. The string s is source code of some submitted solution from Petrozavodsk Training Camp written either in C++ or in Java with all characters with codes less then 32 replaced with spaces.

Sample input corresponds to "Hello World" program in C++, it violates the restriction that all lines have length between 5000 and 20000, any correctly formatted answer to this input would be accepted (note: judges' program correctly solves this input as well, however).

Output

For each line print "`random`" if this line represents randomly shuffled s, or "`block`" if the line represents s shuffled with block shuffle.

Sample output in the problem statement is the correct answer to the sample input.

Examples

detect.in

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```

detect.out

```
block
random
block
random
block
random
block
random
block
random
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