

A bracket is considered to be any one of the following characters: (, ), {, }, [, or ].

Two brackets are considered to be a matched pair if the an opening bracket (i.e., (, [, or {) occurs to the left of a closing bracket (i.e., ), ], or }) of the exact same type. There are three types of matched pairs of brackets: [], {}, and ().

A matching pair of brackets is not balanced if the set of brackets it encloses are not matched. For example, {[()]} is not balanced because the contents in between { and } are not balanced. The pair of square brackets encloses a single, unbalanced opening bracket, (, and the pair of parentheses encloses a single, unbalanced closing square bracket, ].

By this logic, we say a sequence of brackets is balanced if the following conditions are met:

- It contains no unmatched brackets.
- The subset of brackets enclosed within the confines of a matched pair of brackets is also a matched pair of brackets.

Given  $n$  strings of brackets, determine whether each sequence of brackets is balanced. If a string is balanced, return YES. Otherwise, return NO.

### Function Description

Complete the function `isBalanced` in the editor below.

`isBalanced` has the following parameter(s):

- string `s`: a string of brackets

### Returns

- string: either YES or NO

### Input Format

The first line contains a single integer  $n$ , the number of strings.

Each of the next  $n$  lines contains a single string  $s$ , a sequence of brackets.

### Constraints

- $1 \leq n \leq 10^3$
- $1 \leq |s| \leq 10^3$ , where  $|s|$  is the length of the sequence.
- All chracters in the sequences  $\in \{ \{, \}, (, ), [, ] \}$ .

### Output Format

For each string, return YES or NO.

### Sample Input

STDIN	Function
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3            n = 3  
{()}        first s = '{()}'  
{()}        second s = '{()}'  
{[(())]}    third s = '{[(())]}'

### Sample Output

YES  
NO  
YES

### Explanation

1. The string `{()}` meets both criteria for being a balanced string.
2. The string `{[(())]}` is not balanced because the brackets enclosed by the matched pair `{` and `}` are not balanced: `[(())]`.
3. The string `{[(())]}` meets both criteria for being a balanced string.