

# Balanced Brackets



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. It must return a string: `YES` if the sequence is balanced or `NO` if it is not.

`isBalanced` has the following parameter(s):

- `s`: a string of brackets

## 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

```
3
{[(())}
{[(())}
{[{[(())]]}}
```

## Sample Output

```
YES
NO
YES
```

## Explanation

1. The string `{[()]}` meets both criteria for being a balanced string, so we print `YES` on a new line.
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, so we print `YES` on a new line.