Problem 2

Given a sequence consisting of parentheses, determine whether the expression is balanced. A sequence of parentheses is balanced if every open parentheses can be paired uniquely with a closed parentheses that occurs after the former. Also, the interval between them must be balanced. You will be given three types of parentheses: (, {, and [.

{[()]} - This is a balanced parentheses.
{[(])} - This is not a balanced parentheses.

Hint: Use stacks

Input Format

The first line of input contains the number of test cases, T. Each test case consists of a single line, S, the sequence of parentheses.

Constraints

1≤T≤1000
1≤lens≤1000, where lens is the length of the sequence.
Each character of the sequence will be one of {, }, (,), [,].

Output Format

For each test case, print on a new line "*YES*" if the parentheses are balanced. Otherwise, print "*NO*". Do not print the quotes.

Sample Input

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

Sample Output

YES
NO
YES