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Bracket Sequence

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Bracket Sequence

2.0/2.0 points (graded)

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

A sequence A of characters $"(", ")", "[, "]"$ is called a *correct bracket sequence*, if one of the following is true:

- The sequence A is empty.
- The first character is $"("$, and the sequence A contains a character $)"$, such that $A = (B)C$, where B and C are correct bracket sequences.
- The first character is $"["$, and the sequence A contains a character $"]"$, such that $A = [B]C$, where B and C are correct bracket sequences.

For example, the sequences $"(())"$ and $"()[]"$ are correct, while the sequences $"[]"$ and $"(("$ are not correct.

For every line of the input file determine whether it is a correct bracket sequence.

Input

The input file contains at least one and at most 500 lines. Every line contains at least one and at most 10^4 characters, and there are only four possible characters: $"(", ")", "[, "]"$. Every line, **including the last one**, is terminated by a newline sequence.

Output

For every line from the input file output **"YES"** if it is a correct bracket sequence, and **"NO"** otherwise.

Example

brackets.in	brackets.out
()	YES
([])	YES
([])	NO
(([])	NO
()(NO
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Topic: 04: 2nd Week Problems / Bracket Sequence

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