

ITMOx: I2CPx How to win coding competitions: secrets of champions

Help



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Week 1

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Computational Complexity. Linear **Data Structures**

2nd Week **Problems**

due Nov 14, 2016 22:00 **CET**

2nd Week **Problems: Training**

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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.

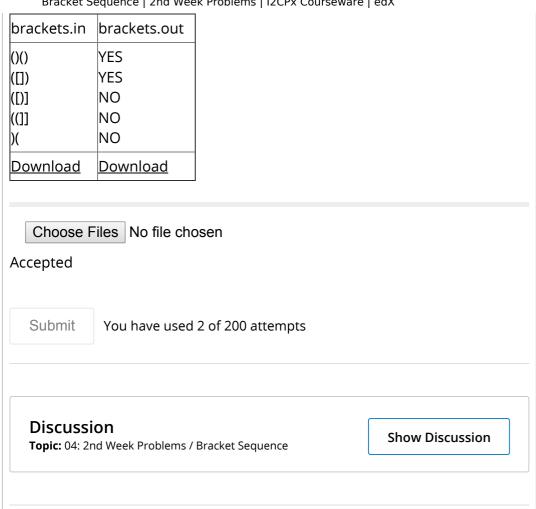
Input

The input file contains at least one and at most 500 lines. Every line contains at least one and at most 10⁴ 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



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