## Balanced Parentheses

Given a sequence consisting of parentheses, determine whether the expression is **balanced**. A sequence of parentheses is balanced if every **open** **parenthesis** can be **paired** **uniquely** with a **closed** **parenthesis** 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 parenthesis.**

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

### Input

* Each input consists of a single line, the **sequence of parentheses**.

### Output

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

### Constraints

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

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| {[()]} | YES |
| {[(])} | NO |
| {{[[(())]]}} | YES |