

Balanced Parentheses

time limit per test: 1 second (1 second for Python)

memory limit per test: 976.6 megabytes

input: standard input

output: standard output

points: 100 · problem code: balancedparentheses

You are given a string consisting only of the characters `(`, `)`, `[`, `]`, `{`, and `}`.

A string is considered **balanced** if:

- Every opening bracket is closed by the same type of bracket.
- Brackets are closed in the correct order.

Determine whether the given string is balanced.

Input

A single line containing the string s .

Output

Print `YES` if s is balanced, otherwise print `NO`.

Constraints

- $1 \leq |s| \leq 2 \cdot 10^5$
- s contains only `(`, `)`, `[`, `]`, `{`, `}`

Example 1

Input

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

Output

```
YES 
```

Example 2

Input

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

Output

```
YES 
```

Example 3

Input

```
([ ] 
```

Output

```
NO 
```