Java Stack

Problem Statement

A string containing only parentheses is balanced if the following is true:

1. if it is an empty string

2. if A and B are correct, AB is correct,

3. if A is correct, (A) and {A} and [A] are also correct.

Examples of some correctly balanced strings are: "{}()", "[{()}]", "({()})"

Examples of some unbalanced strings are: "{}(", "({)}", "[[", "}{" etc.

Given a string, determine if it is balanced or not.

Input Format

There will be multiple lines in the input file, each having a single non-empty string. You should read input till end-of-file.

Output Format

For each case, print 'true' if the string is balanced, 'false' otherwise.

Sample Input

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

Sample Output

```
true
true
false
true
```