

In computer science, a stack or LIFO (last in, first out) is an abstract data type that serves as a collection of elements, with two principal operations: push, which adds an element to

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.

The part of the code that handles input operation is already provided in the editor.

#### **Output Format**

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

#### **Sample Input**

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

#### **Sample Output**

```
true  
true  
false  
true
```