S-expression

DEFINITION
S-expression is such a expression which is single element or union of two elements. Note that union of two elements create new element:

A - single element

(a, b) union of two elements
(a, b) is element too then
((a,b), c) is also s-expression

GOAL

Our goal is to check if given expression is s-expression or not.
Input:
    expression
OUTPUT:
    true/false

TECHNIQUE

We use computer science concept divide & conquer which means it will be used recursion in function of finding s-expression. Simply we take Input and divide it in two, then we call function taking as an argument first part. Next we call the same function too but with second part. Compared result is returned and in case of fulfill condition1 or condition2 we return true/false.

```
Boolean Function(Part1, Part2) {
        if(condition1) return true
        if(condition2) return false;
        Part1 = divider(Element, 1);
        Part2 = divider(Element, 2);

        return (Function(Part1) ^ Function(Part2))

}
```
IMPLEMENTATION

```
String[2] Splitter (String ){
        return  {String.splitFirstElement(), String.splitSecondElement() };}
Boolean check(str){
        if(str.size()==1) return true
        String left = Splitter(str)[0];
        String right = Splitter(str)[1]

        boolean leftCorrect = false;
        boolean rightCorrect = false;

        if(left.size()==1) leftCorrect = true;
        if(right.size()==1)rightCorrect = true;

        if(right.contains(„(„)&&right.contains(„)“){
                rightCorrect = check(right);}
        if(left.contains(„(„)&&leftcontains(„)“){
                leftCorrect = check(left);}
        if(rightCorrect&&leftCorrect) return true else false

}
```