

ASSIGNMENT-9.3(Balanced Delimiter)

A balanced delimiter starts with an opening character ((, [, {), ends with a matching closing character (),], } respectively), and has only other matching delimiters in between. A balanced delimiter may contain any number of balanced delimiters.

Examples

The following are examples of balanced delimiter strings:

(){}

({})

{()}

The following are examples of invalid strings:

()]

([

])

({)

Input is provided as a single string. Your output should be True or False according to whether the string is balanced. For example:

Input:

({})

Output:

True

```
def is_balanced(delimiters):
```

```
    stack = []
```

```
    for char in delimiters:
```

```
        if char in "([{":
```

```
            stack.append(char)
```

```
        elif char in ")]}":
```

```
            if not stack:
```

```
                return False
```

```
            if (char == ")" and stack[-1] == "(") or \
```

```
                (char == "]" and stack[-1] == "[") or \
```

```
                (char == "}" and stack[-1] == "{"):
```

```
                stack.pop()
```

```
            else:
```

```
                return False
```

return not stack

```
print(is_balanced "()[]{}")) # True
```

```
print(is_balanced "({})") # True
```

```
print(is_balanced "([]{}")) # True
```

```
print(is_balanced "([])") # False
```

```
print(is_balanced "({})") # False
```

```
print(is_balanced "[]{}") # False
```