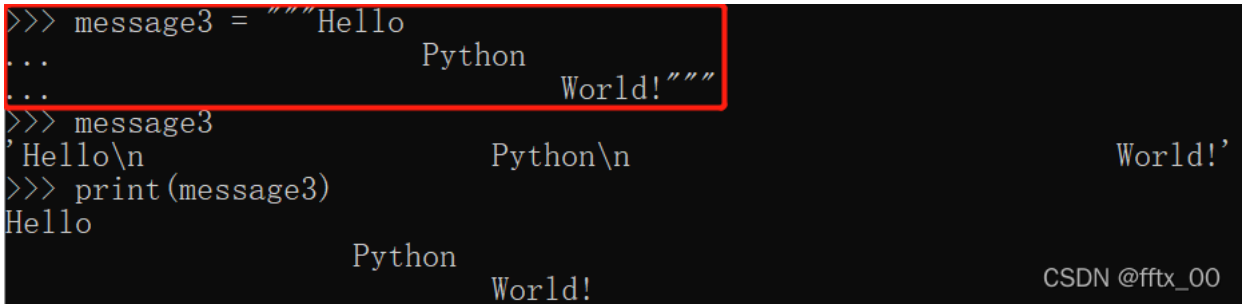
# 【Python】序列对象——字符串string

## 一、 字符串

```
"""
字符串支持单引号、双引号、三引号
"""
message1 = 'Hello!'
message2 = "Hello Python World!"
message3 = """Hello
                    Python
                            World!"""
```




```
"""
实现存储单or双引号：
1.混用
2.反斜杠转义

"""
message = "The language 'python' is named after Monty Python, not the snake."

message = "The language \'python\' is named after Monty Python, not the snake."
```

```
>>> s = 'this\
is\
a\
 test.\
 '
>>> s
'thisisa test. '
>>> print(s)
thisisa test.
```

**使用\表示行未完**

```
>>> s = r'this\nis\na\ntest/'
>>> s
'this\\nis\\na\\ntest/'
>>> print(s)
this\nis\na\ntest/
```

**使用r不转义**

## 二、字符串函数

> **字符串是不可变对象，不支持元素赋值和修改**
> 因此所有的字符串函数str.name() 并**不会修改原字符串，而是产生一个新字符串**

### 1.重复 *

```
# 字符串片段重复多次
str1 = 'abcd '
str2 = str1*5
print(str2)
```

## 2.连接 +

```
# 字符串片段拼接
str1 = 'abcd+'
str2 = 'efgh'
str3 = str1+str2
print(str3)
```

## 3.大小写

```
# 每个单词首字母大写
name = "ada lovelace"
print(name.title())
# 字符串全部大写or小写
print(name.upper())
print(name.lower())
```

## 4.空白

```
favorite_language = ' python '
print("'"+favorite_language+"'")
# 删除字符串末尾的空白
print("'"+favorite_language.rstrip()+"'")
# 删除字符串开头的空白
print("'"+favorite_language.lstrip()+"'")
# 删除字符串两头的空白
print("'"+favorite_language.strip()+"'")
```

## 5.查找子串 in,str.find(),str.index(),str.count()

```
# 查找子串
str1 = 'abcd '
str2 = str1*20+'aabbd'

'aabb' in str2              # 是否存在

str2.find('aabb')           # 在哪里
str2.index('aabb')          # 在哪里
str2.rindex('aabb')         # 从右边找，在哪里(最后出现的位置）

str2.find('aabb',3,5)       ##从3位置开始找,5位置结束，找不到返回-1
str2.index('aabb',3,5)      ##从3位置开始找,5位置结束，找不到报错

str2.count('aabb')          # 重复几次
```

## 6.字符串长度 len(str)

```
# 字符串长度
str1 = 'abcd '
str2 = str1*20+'aabbd'
print(len(str2))
```

## 7.字符串求值 eval(str)

```
# 字符串求值eval()
print(eval('3+4j'))              # 对字符串求值得到复数
print(eval('8**2'))              # 计算表达式8**2的值
print(eval('[1, 2, 3, 4, 5]'))   # 对字符串形式求值得到列表
print(eval('{1, 2, 3, 4}'))      # 对字符串求值得到集合
```

## 8.字符串索引、切片 [::]

```
>>> month = ['JAN', 'FEB', 'MAR', 'APR', 'MAY', 'JUN', 'JUL', 'AUG', 'SEP', 'OCT', 'NOV', 'DEC']
>>> month
['JAN', 'FEB', 'MAR', 'APR', 'MAY', 'JUN', 'JUL', 'AUG', 'SEP', 'OCT', 'NOV', 'DEC']
>>> month[3:6]
['APR', 'MAY', 'JUN']
>>> month[3:5]
['APR', 'MAY']
>>> '26C'[0:-1]
'26'
>>> '8C'[0:-1]
'8'
>>> '26C'[:-1]
'26'
>>> 'Zhejiang'[3:8]
'jiang'
>>> 'Zhejiang'[8]
```



```
"""
取最后一个元素
"""
str[-1]
str[len(str)-1]
```

```
"""
切片倒转
"""
str[::-1]
```

## 9.替换 str.replace()

```
>>> s
' Hello World '
>>> s.replace(' ', '-')
'-Hello-World-'
>>> s.replace(' ', '--')
'--Hello--World--'
>>> s.replace(' ', '')
'HelloWorld'
```

## 10.str()

```
>>> str(123)
'123'
>>> str(123.45)
'123.45'
```

## 11.字符串绑定变量

```
>>> 'I am %d year old.' % 18
'I am 18 year old.'
>>> 'I am %d years old and weight %d kg.' % (18, 50)
'I am 18 years old and weight 50 kg.'
>>> 'it is %.1fC.'%30.5
'it is 30.5C.'
>>> 'it is %.1fC.'%30.5123
'it is 30.5C.'
>>> 'it is %.1fC.'%30.579
'it is 30.6C.'
>>> 'I am %10d year old' % 18
'I am         18 year old'
>>> 'it is %10.1fC.'%30.5123
'it is       30.5C.'
```

%d

%.1f

%10.1f

截图(A



```
>>> val=1.2554654654
>>> 'sdfahohoafhjoi%10.1fsafhoif'%val
'sdfahohoafhjoi       1.3safhoif'
```



## 12.str.split()

string自动识别空格转成list

```
>>> s = 'this is a test'
>>> s.split()
['this', 'is', 'a', 'test']
>>> list(s)
['t', 'h', 'i', 's', ' ', 'i', 's', ' ', 'a', ' ', 't', 'e', 's', 't']
```



```
>>> s = '12:35'
>>> s.split(':')
['12', '35']
>>> s = '12::35'
>>> s.split('::')
['12', '35']
>>> s
'12::35'
>>> s.split(':')
['12', '', '35']
```

## 13.str.join()

str用来join列表

```
>>> s = 'this is a test'
>>> s
'this is a test'
>>> t = s.split()
>>> t
['this', 'is', 'a', 'test']
>>> ' '.join(t)
'this is a test'
```

## 14.str.maketrans(),str.translate()

```
>>> table = ''.maketrans('0123456789', '零一二三四伍陆柒捌玖')
>>> print('Tel:30647359'.translate(table))
Tel:三零陆四柒三伍玖
```



## 15.ljust()、rjust()、center()

```
>>> print('居左'.ljust(20)+'结束')
居左                  结束
>>> print('居右'.rjust(20, '#'))          # 左侧使用井号填充
##################居右
>>> print('居中'.center(20, '='))         # 两侧使用等号填充
=========居中=========
```