String methods

String data type provides predefined methods to perform operations on string.

String conversion methods

1. upper()
2. lower()
3. capitalize()
4. title()
5. swapcase()

upper()	This method returns new string by converting all characters into uppercase
lower()	This method returns new string by converting all the characters into lowercase
capitalize()	This method returns first character of string is in uppercase and remaining all are in lowercase
title()	This method returns every word first letter in uppercase and remaining are in lowercase
swapcase()	This method returns new string by converting uppercase to lowercase and lowercase to uppercase

Example:

```
str1="python"
str2=str1.upper()
print(f'{str1}-->{str2}')
str3="PYTHON"
str4=str3.lower()
print(f'{str3}-->{str4}')
str5="python programming"
str6=str5.capitalize()
print(f'{str5}-->{str6}')
str7="python programming"
str8=str7.title()
print(f'{str7}--->{str8}')
str9="PytHoN"
str10=str9.swapcase()
```

```
print(f'{str9}-->{str10}')
```

Output

```
python-->PYTHON
PYTHON-->python
python programming-->Python programming
python programming--->Python Programming
PytHoN-->pYThOn
```

Example:

```
# Write a program to convert input string into uppercase

str1=input("Enter any string ")
str2=''

for ch in str1:
    if ch>='a' and ch<='z':
        str2=str2+chr(ord(ch)-32)
    else:
        str2=str2+ch

print(f'{str1}-->{str2}')
```

Output

```
Enter any string python
python-->PYTHON
```

 # Write a program to convert input string into lowercase

```
str1=input("Enter any string ")
str2=''

for ch in str1:
    if ch>='A' and ch<='Z':
        str2=str2+chr(ord(ch)+32)
    else:
        str2=str2+ch
```

```
print(f'{str1}-->{str2}')
```

Output

```
Enter any string PYTHON
PYTHON-->python
```

Example:

```
# Write a program to return string into capitalize
str1=input("Enter any string ")
str2=""
for i in range(len(str1)):
    if i==0:
        if str1[i]>='A' and str1[i]<='Z':
            str2=str2+str1[i]
        elif str1[i]>='a' and str1[i]<='z':
            str2=str2+chr(ord(str1[i])-32)
        else:
            str2=str2+str1[i]
    elif str1[i]>='A' and str1[i]<='Z':
        str2=str2+chr(ord(str1[i])+32)
    else:
        str2=str2+str1[i]

print(str1)
print(str2)
```

Output

```
Enter any string python
python
Python
```

Example:

```
# Write a program to convert string into titlecase


str1=input("Enter any string ")
```

```
str2=""

i=0
l=len(str1)
while i<l:
    if i==0:
        if str1[i]>='A' and str1[i]<='Z':
            str2=str2+str1[i]
        elif str1[i]>='a' and str1[i]<='z':
            str2=str2+chr(ord(str1[i])-32)
        else:
            str2=str2+str1[i]
    elif str1[i]==' ':
        str2=str2+str1[i]
        i=i+1
        if str1[i]>='a' and str1[i]<='z':
            str2=str2+chr(ord(str1[i])-32)
        else:
            str2=str2+str1[i]
    elif str1[i]>='A' and str1[i]<='Z':
        str2=str2+chr(ord(str1[i])+32)
    else:
        str2=str2+str1[i]
    i=i+1

print(str1)
print(str2)
```

Output

```
Enter any string python django html
python django html
Python Django Html
```

Example:

```
# Write a program convert input string into swapcase

str1=input("Enter any string ")
```

```
str2=""

for ch in str1:
    if ch>='A' and ch<='Z':
        str2=str2+chr(ord(ch)+32)
    elif ch>='a' and ch<='z':
        str2=str2+chr(ord(ch)-32)
    else:
        str2=str2+ch

print(str1)
print(str2)
```

Output

```
Enter any string AbC
AbC
aBc
```

Example:

```
names=["naresh","RAMESH","Kishore","rajesh","kiran"]
for name in names:
    print(name.upper())

for name in names:
    print(name.capitalize())
```

Output

```
NARESH
RAMESH
KISHORE
RAJESH
KIRAN
Naresh
Ramesh
Kishore
Rajesh
Kiran
```

String examine methods

isupper()	This methods returns True if all letters within string are in uppercase else False
islower()	This method returns True if all letters within string are in lowercase else return False
Istitle()	This method returns True every word first letter is uppercase and remaining in lowercase else False
Isalpha()	This method return True, if all letters within string are alphabets else False
Isdigit()	This method returns True, if all character within string are digits else False
Isalnum()	This method returns True, if character within string is alphabet, digits else False(special character)
Isspace()	This method returns True, if string contains only space characters

Example:

```
str1="HTML"
print(str1.isupper())
str2="HTMl"
print(str2.isupper())

b=True
for ch in str1:
   if ch>='a' and ch<='z':
      b=False
      break
print(b)
```

Output

```
True
False
False
```

Example:

```
str1="html"
print(str1.islower())
```

```
str2="HTML"
print(str2.islower())

b=True
for ch in str1:
    if ch>='A' and ch<='Z':
        b=False
        break

print(b)
```

Output

```
True
False
True
```

Example:

```
str1="Python Program"
print(str1.istitle())
str2="PYTHON PROGRAM"
print(str2.istitle())
```

Output

```
True
False
```

Example:

```
str1="abc"
print(str1.isalpha())
str2="ABC"
print(str2.isalpha())
str3="A123"
print(str3.isalpha())

b=True
for ch in str1:
    if not (ch>='A' and ch<='Z' or ch>='a' and ch<='z'):
```

```
        b=False
        break

print(b)
```

Output

```
True
True
False
True
```

Example:

```
# Write a program to find input name is valid or not
# if name contains only alphabets it is valid name

name=input("Enter Name ")
if name.isalpha():
   print("Valid")
else:
   print("Invalid")
```

Output

```
Enter Name abc
Valid

Enter Name abc$
Invalid

Enter Name ab12cd
Invalid
```

Example:

```
mobileno="8877644556"
if mobileno.isdigit() and len(mobileno)==10:
   print("Valid Mobile No")
else:
   print("Invalid MobileNo")
```

Output
Valid Mobile No.

Example:

```
str1="abc"
print(str1.isalnum())
str2="123"
print(str2.isalnum())
str3="abc123"
print(str3.isalnum())
str4="abc123$#"
print(str4.isalnum())
```

Output

```
True
True
True
False
```

Example:

```
# Password validation
# 4 alphabets
# 2 digits
# 2 special characters

password=input("Input Password ")
ac,dc,sc=0,0,0

for ch in password:
    if ch.isalpha():
        ac+=1
    elif ch.isdigit():
        dc+=1
    else:
        sc+=1

print(f'Alphabet Count {ac}')
```

```
print(f'Digit Count {dc}')
print(f'Special Character count {sc}')
if ac>=4 and dc>=2 and sc>=2:
    print("valid")
else:
    print("invalid")
```

Output

```
Input Password ab12@$
Alphabet Count 2
Digit Count 2
Special Character count 2
Invalid
```

Example:

```
str1="    "
print(str1.isspace())
str2="a b c"
print(str2.isspace())
```

Output

```
True
False
```

Example:

```
>>> s1=''
>>> bool(s1)
False
>>> s2="abc"
>>> bool(s2)
True
```

bool() function returns False, if string is empty else True

String split methods

split()	This method splits (OR) divides a string into sub string using separator. Search for separator from left to right Syntax: string-name.split(sep=' ',max_split=-1)
rsplit()	This method splitis (OR) divides a string into sub string using separator, search for separator from righ to left