Python Programming

RGM College of Engineering & Technology (Autonomous)

Department of Computer Science & Engineering

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STRINGS IN PYTHON – I - 2

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Learning Mantra

If you really strong in the basics, then remaining things will become so easy.

Agenda

1. Mathematical Operators for String
2. Comparison of Strings
3. Removing spaces from the string

Mathematical Operators for String:

We can apply the following mathematical operators for Strings.

1. Operator for concatenation
2. Operator for repetition

Eg:

print("karthi" + "sahasra") ➔karthisahasra

print("karthi"*2) ➔karthikarthi

Note:

1. To use + operator for Strings, compulsory both arguments should be 'str' type.

2. To use * operator for Strings, compulsory one argument should be 'str' and other argument should be 'int'.

Eg : Q. Write a Python program to access each character of string in forward and backward direction by using while loop.

```
s="Learning Python is very easy !!!"
n=len(s)
i=0
print("Forward direction")
print()
while i<n:
        print(s[i],end=' ')
        i +=1
print('')
print('')
print("Backward direction")
print()
i=-1
while i>=-n:
        print(s[i],end=' ')
        i=i-1
```

```
Forward direction

L e a r n i n g  P y t h o n  i s  v e r y  e a s y  ! ! !

Backward direction

! ! !  y s a e  y r e v  s i  n o h t y P  g n i n r a e L
```

len() in-built function:

- We can use len() function to find the number of characters present in the string.

Eg:

```
s='karthi'
print(len(s))          ➔6
```

Alternative way [Using slice operator]:

```
s="Learning Python is very easy !!!"
print("Forward direction")
print(‘ ')
for i in s:
    print(i,end=' ')
print('')
print('')
print("Forward direction")
print(‘ ')
for i in s[::]:
    print(i,end=' ')
print('')
print('')
print('Backward Direction')
print('')
for i in s[::-1]:
    print(i,end=' ')
```

```
Forward direction

L e a r n i n g  P y t h o n  i s  v e r y  e a s y  ! ! !

Forward direction

L e a r n i n g  P y t h o n  i s  v e r y  e a s y  ! ! !

Backward Direction

! ! !  y s a e  y r e v  s i  n o h t y P  g n i n r a e L
```

Eg:

```
s = input('Enter the string')
print('Data in Forward Direction')
for i in s:
    print(i,end='')
print()
print('Data in Backward Direction')
for i in s[::-1]:
    print(i,end='')
```

```
Enter the stringkarthi
Data in Farward Direction
karthi
Data in Backward Direction
ihtrak
```

Alternative Way :

```
s = input('Enter the string : ')
print('Data in Forward Direction')
print(s[::1])
print()
print('Data in Backward Direction')
print(s[::-1])
```

Output:

```
Enter the string : karthi
Data in Farward Direction
karthi

Data in Backward Direction
ihtrak
```

Few more examples:

```
s = 'karthikeya'
print(s[-1:-1:-1])          # It results an empty string

s = 'karthikeya'
print(s[-1:0:1])            # It results an empty string
```

Membership Operators:

- We can check whether the character or string is the member of another string or not by using following membership operators:

  1. in
  2. not in

Eg:

```
s = 'karthi'
print('r' in s)        ➔True

s = 'karthi'
print('p' in s)        ➔False
```

Eg:

```
s=input("Enter main string:")
subs=input("Enter sub string:")
if subs in s:
    print(subs,"is found in main string")
else:
    print(subs,"is not found in main string")
```

Output:

```
Enter main string:karthikeya
Enter sub string:thi
thi is found in main string
```

Eg:

```
s=input("Enter main string:")
subs=input("Enter sub string:")
if subs in s:
    print(subs,"is found in main string")
else:
    print(subs,"is not found in main string")
```

Output:

```
Enter main string:karthi
Enter sub string:saha
saha is not found in main string
```

Comparison of Strings:

- We can use comparison operators (<,<=,>,>=) and equality operators(==,!=) for strings.
- Comparison will be performed based on alphabetical order.

Eg:

```
s1=input("Enter first string:")
s2=input("Enter Second string:")
if s1==s2:
    print("Both strings are equal")
elif s1<s2:
    print("First String is less than Second String")
else:
    print("First String is greater than Second String")
```

```
Enter first string:karthi
Enter Second string:karthi
Both strings are equal
```

Eg:

```
s1=input("Enter first string:")
s2=input("Enter Second string:")
if s1==s2:
    print("Both strings are equal")
elif s1<s2:
    print("First String is less than Second String")
else:
    print("First String is greater than Second String")
```

```
Enter first string:karthi
Enter Second string:sahasra
First String is less than Second String
```

Eg:

```
s1=input("Enter first string:")
s2=input("Enter Second string:")
if s1==s2:
    print("Both strings are equal")
elif s1<s2:
    print("First String is less than Second String")
else:
    print("First String is greater than Second String")
```

```
Enter first string:sahasra
Enter Second string:karthi
First String is greater than Second String
```

Removing spaces from the string:

- To remove the blank spaces present at either beginning and end of the string, we can use the following 3 methods:

1.rstrip() ➔ To remove blank spaces present at end of the string (i.e., right hand side).

2.lstrip() ➔ To remove blank spaces present at the beginning of the string (i.e.,LHS).

3.strip() ➔ To remove spaces both sides

Eg:

```
city=input("Enter your city Name:")
scity=city.strip()
if scity=='Hyderabad':
    print("Hello Hyderbadi..Adab")
elif scity=='Chennai':
    print("Hello Madrasi...Vanakkam")
elif scity=="Bangalore":
    print("Hello Kannadiga...Shubhodaya")
else:
    print("your entered city is invalid")
```

```
Enter your city Name:Hyderabad
Hello Hyderbadi..Adab
```

Eg:

```
city=input("Enter your city Name:")
scity=city.strip()
if scity=='Hyderabad':
    print("Hello Hyderbadi..Adab")
elif scity=='Chennai':
    print("Hello Madrasi...Vanakkam")
elif scity=="Bangalore":
    print("Hello Kannadiga...Shubhodaya")
else:
    print("your entered city is invalid")
```

```
Enter your city Name:Chennai
Hello Madrasi...Vanakkam
```

Eg:

```
city=input("Enter your city Name:")
scity=city.strip()
if scity=='Hyderabad':
    print("Hello Hyderbadi..Adab")
elif scity=='Chennai':
    print("Hello Madrasi...Vanakkam")
elif scity=="Bangalore":
    print("Hello Kannadiga...Shubhodaya")
else:
    print("your entered city is invalid")
```

```
Enter your city Name:Bangalore
Hello Kannadiga...Shubhodaya
```

Eg:

```
city=input("Enter your city Name:")
scity=city.strip()
if scity=='Hyderabad':
    print("Hello Hyderbadi..Adab")
elif scity=='Chennai':
    print("Hello Madrasi...Vanakkam")
elif scity=="Bangalore":
    print("Hello Kannadiga...Shubhodaya")
else:
    print("your entered city is invalid")
```

```
Enter your city Name:nandyal
your entered city is invalid
```

Eg:

```
city=input("Enter your city Name:")
# scity=city.strip()                    Comment Line
if scity=='Hyderabad':
    print("Hello Hyderbadi..Adab")
elif scity=='Chennai':
    print("Hello Madrasi...Vanakkam")
elif scity=="Bangalore":
    print("Hello Kannadiga...Shubhodaya")
else:
    print("your entered city is invalid")
```

```
Enter your city Name: Hyderabad
your entered city is invalid
```

Eg:

```
city=input("Enter your city Name:")
scity=city.strip()
if scity=='Hyderabad':
    print("Hello Hyderbadi..Adab")
elif scity=='Chennai':
    print("Hello Madrasi...Vanakkam")
elif scity=="Bangalore":
    print("Hello Kannadiga...Shubhodaya")
else:
    print("your entered city is invalid")
```

```
Enter your city Name:    Hyderabad
Hello Hyderbadi..Adab
```

Note :

- In the middle of the string, if the blank spaces are present, then the above specified functions can't do anything.

Any question?

If you try to practice programs yourself, then you will learn many things automatically

Spend few minutes and then enjoy the study

Thank You