Strings

String is an immutable sequence data type. After creating string changes cannot be done.
String is a collection of characters; these characters can be alphabets, digits or special characters. It is non numeric data type.

How to create string?

1. String is represented within single quotes
2. String is represented within double quotes
3. String is represented within triple single quotes or double quotes
4. str() function

Example:

```
>>> str1='python is a programming language'
>>> str2="python is a programming language"
>>> str3='''python
... is a
... programming
... language'''
>>> str4="""python
... is a
... programming
... language"""
>>> str5='python is a "programming" language'
>>> str6="python is a 'programming' language"
>>> print(str1,str2,str3,str4,str5,str6,sep="\n")
python is a programming language
python is a programming language
python
is a
programming
language
python
is a
programming
language
python is a "programming" language
python is a 'programming' language
>>>
```

Example:

```
>>> str7=str()
>>> print(str7)

>>> str8=str("python")
>>> str9=str(10)
>>> str10=str(1.5)
>>> str11=str(1+2j)
>>> str12=str([10,20,30,40])
>>> print(str8,str9,str10,str11,str12,sep="\n")
python
10
1.5
(1+2j)
[10, 20, 30, 40]
```

raw string

The string prefix with r is called raw string.
Python raw string treats the backslash character (\) as a literal character.
You can create a raw string in Python by prefixing a string literal with r or R.
Python raw string treats the backslash character (\) as a literal character.
Raw string is useful when a string needs to contain a backslash, such as for a regular expression or Windows directory path, and you don't want it to be treated as an escape character.

Example:

```
str1="python\tjava\toracle"
print(str1)
str2=r'python\tjava\toracle'
print(str2)
str3="python\njava\noracle"
print(str3)
str4=r"python\njava\noracle"
print(str4)
```

Output

```
python	java	oracle
python\tjava\toracle
```

python
java
oracle
python\njava\noracle

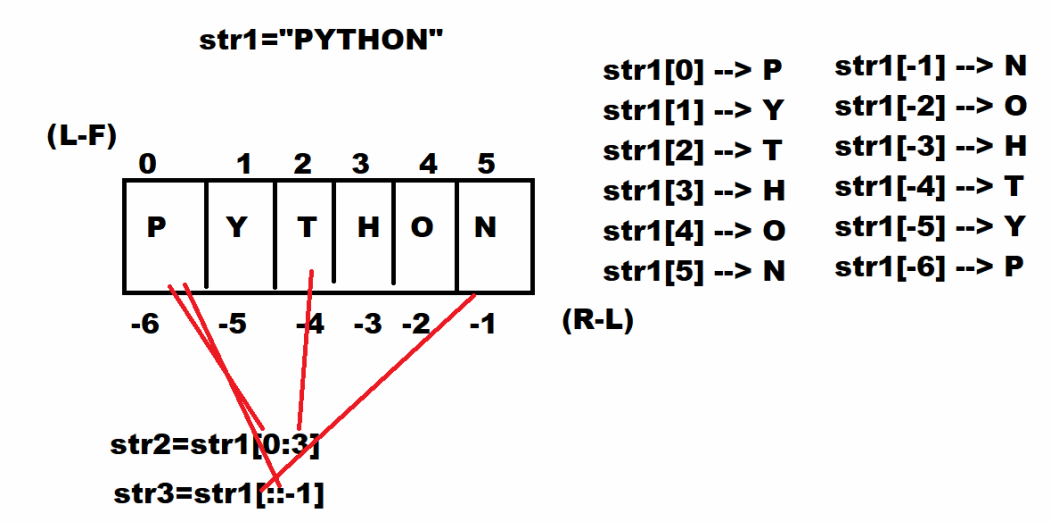
f-string
f-string stands for format string. It is used for formatting output. This string is prefix with f or F.

Example:
```
a=10
b=20
print(f'sum of {a} and {b} is {a+b}')
```

Output
sum of 10 and 20 is 30

Reading content of string
Content of string can be read in different ways

1. using index
2. using slicing
3. using for loop
4. using iterator
5. using enumerate



Example:

```
# Python Program to Check if a String is Palindrome or Not

str1=input("Enter any string ")
str2=str1[::-1]
print(str1,str2)

if str1==str2:
    print("Palindrome")
else:
    print("Not Palindrome")
```

Output

```
Enter any string radar
radar radar
Palindrome

Enter any string radix
radix xidar
Not Palindrome
```

Example:

```
# Python program to check whether the string is Symmetrical or
Palindrome

'''
Given a string. the task is to check if the string is symmetrical and
palindrome or not.
A string is said to be symmetrical if both the halves of the string are the
same and a string is said to be a
palindrome string if one half of the string is the reverse of the other half or if
a string appears the
same when read forward or backward.

Example:

Input: khokho
Output:
The entered string is symmetrical
The entered string is not palindrome
```

Input:amaama
Output:
The entered string is symmetrical
The entered string is palindrome '''

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

if len(str1)%2==0:
    l=len(str1)
    h1=str1[:l//2]
    h2=str1[l//2:]
    if h1==h2:
        print("The entered string is symmetrical")
    else:
        print("The entered string is not symmetrical")
else:
    print("The entered string is not symmetrical")


if str1==str1[::-1]:
    print("The entered string is palindrome")
else:
    print("The entered string is not palindrome ")
```

Output

```
Enter any String khokho
The entered string is symmetrical
The entered string is not palindrome

Enter any String amaama
The entered string is symmetrical
The entered string is palindrome

Enter any String radar
The entered string is not symmetrical
The entered string is palindrome
```

Example:

''' Reverse Words in a Given String in Python

We are given a string and we need to reverse words of a given string

Examples:

Input : str =" geeks quiz practice code"
Output : str = code practice quiz geeks
Input : str = "my name is laxmi"
output : str= laxmi is name my
'''

```
str1=input("Enter any string ")
list1=str1.split()
list1=list1[::-1]

print(list1)
str2=' '.join(list1)
print(str2)
```

Output

```
Enter any string python programming language
['language', 'programming', 'python']
language programming python
```

Example

```
''' Check if String Contains Substring in Python

Input: Substring = "geeks"
          String="geeks for geeks"
Output: yes
Input: Substring = "geek"
          String="geeks for geeks"
Ouput: Yes
'''

str1=input("Enter any string ")
search=input("Enter string to search ")
if search in str1:
   print("Yes")
else:
```

```
    print("No")
```

Output

```
Enter any string geeks for geeks
Enter string to search geek
Yes

Enter any string geeks for geeks
Enter string to search nit
No
```