

String is a sequence data type and it allows reading characters in different ways

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

Using index

Using index we can read one character from string. Each character read from string is string.

```
>>> str1="PYTHON"
>>> str1[0]
'P'
>>> str1[1]
'Y'
>>> str1[2]
'T'
>>> str1[-1]
'N'
>>> str1[-2]
'O'
```

Example:

Program for swapcase

```
str1=input("enter any string") # PytHoN 3
str2=""
```

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

```
i=i+1
```

```
print(str1)
```

```
print(str2)
```

Output:

enter any stringPythOn 3

PythOn 3

pYTHoN 3

Example:

Program of Capitalize

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

```
str2=""
```

```
i=0
```

```
l=len(str1)
```

```
while i<l:
```

```
    if i==0 and str1[i]>='a' and str1[i]<='z':
```

```
        str2=str2+chr(ord(str1[i])-32)
```

```
    elif i==0 and str1[i]>='A' and str1[i]<='Z':
```

```
        str2=str2+str1[i]
```

```
    elif str1[i]==' ' and str1[i+1]>='a' and str1[i+1]<='z':
```

```
        str2=str2+' '
```

```
        str2=str2+chr(ord(str1[i+1])-32)
```

```
        i=i+1
```

```
    elif str1[i]==' ' and str1[i+1]>='A' and str1[i+1]<='Z':
```

```
        str2=str2+' '
```

```
        str2=str2+str1[i+1]
```

```
        i=i+1
```

```
    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 stringPYTHON LANGUAGE
PYTHON LANGUAGE
Python Language
```

Example:

Program of Capitalize

```
str1=input("enter any string")
str2=" "
l=str1.split()
l1=[]
for s in l:
    s1=""
    i=0
    while i<len(s):
        if i==0 and s[i]>='a' and s[i]<='z':
            s1=s1+chr(ord(s[i])-32)
        elif i==0 and s[i]>='A' and s[i]<='Z':
            s1=s1+s[i]
        elif s[i]>='A' and s[i]<='Z':
            s1=s1+chr(ord(s[i])+32)
        else:
            s1=s1+s[i]
        i=i+1
    l1.append(s1)
print(l1)
str3=str2.join(l1)
print(str3)
```

Output:

```
enter any stringpython language
['Python', 'Language']
Python Language
```

```
===== RESTART: F:/python6pmaug/test130.py =====
enter any stringPYTHON LANGUAGE
['Python', 'Language']
Python Language
```

Using slicing

Slicing is used to read a string from string which is called sub string.

```
str1="programming"
>>> str2=str1[:3]
>>> print(str1)
programming
>>> print(str2)
pro
>>> str3=str1[-3:]
>>> print(str3)
ing
>>> str4=str1[::-1]
>>> print(str4)
gnimmargorp
```

Example:

write a program to find input string is pal or not

```
str1=input("enter any string")
str2=str1[::-1]
if str1==str2:
    print(str1,"is pal")
else:
    print(str1,"is not pal")
```

Output:

```
enter any stringaba
aba is pal
```