

## Using index

# Reading content of string using index

```
str1="PROGRAMMING"
a=len(str1)
for i in range(a): # 0 1 2 3 4 5 6 7 8 9 10
    print(str1[i],end=' ')

print()
for i in range(-1,-(a+1),-1): # -1 -2 -3 -4 -5 -6 -7 -8 -9 -10 -11
    print(str1[i],end=' ')

print()
for i in range(-1,-(a+1),-2): # -1 -3 -5 -7 -9 -11
    print(str1[i],end=' ')
```

## Output

```
P R O G R A M M I N G
G N I M M A R G O R P
G I M R O P
```

## Using slicing

# Reading content of string using slicing

```
str1="PROGRAMMING"
str2=str1[:4]
str3=str1[-4:]
str4=str1[4:7]
str5=str1[::-1] # Reverse string
print(str1,str2,str3,str4,str5,sep="\n")
```

**Output:**

PROGRAMMING  
PROG  
MING  
RAM  
GNIMMARGORP

**Using for loop**

# Write a program to count digits, alphabets, special characters exists within string

```
str1=input("Enter any string ") # java
ac,dc,sc=0,0,0
for ch in str1:
    if (ch>='a' and ch<='z') or (ch>='A' and ch<='Z'):
        ac+=1
    elif ch>='0' and ch<='9':
        dc+=1
    else:
        sc+=1

print(f'Alphabet Count {ac}')
print(f'Digit Count {dc}')
print(f'Special Character Count {sc}')
```

**Output:**

Enter any string python3.12  
Alphabet Count 6  
Digit Count 3  
Special Character Count 1

**Example:**

# Write a program to count of vowels in given string

```
str1=input("Enter any string ")
vc=0
for ch in str1:
    if ch in "aeiouAEIOU":
        vc+=1

print(str1)
print(vc)
```

**Output:**

```
Enter any string java
java
2
```

**Methods of str class****Case conversion methods****str.capitalize()**

Return a copy of the string with its first character capitalized and the rest lowercased.

**Example:**

```
>>> str1="abc"
>>> str2=str1.capitalize()
>>> print(str1,str2,sep="\n")
abc
Abc
>>> str3="ABC"
```

```
>>> str4=str3.capitalize()
>>> print(str3,str4,sep="\n")
ABC
Abc
```

**Example:**

```
names=["naresh","RAMESH","suresh","Rajesh","kishore"]
for name in names:
    print(name.capitalize())
```

**Output:**

```
Naresh
Ramesh
Suresh
Rajesh
Kishore
```

**Example:**

# Write a program to capitalize string without capitalize() method

```
str1=input("Enter any String ") # aBC
str2=""
```

```
for i in range(len(str1)): # 0 1 2
    if i==0:
        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]
```

```
print(str2)
```

**Output:**

Enter any String ABC

Abc

**str.lower()**

Return a copy of the string with all the cased characters converted to lowercase.

```
>>> str1="ABC"
```

```
>>> str2=str1.lower()
```

```
>>> print(str1,str2,sep="\n")
```

ABC

Abc

**Example:**

# Login

```
user=input("UserName ")
```

```
pwd=input("Password ")
```

```
if user.lower()=="nit" and pwd.upper()=="NIT123":
```

```
    print("Welcome ")
```

```
else:
```

```
    print("Invalid username or password")
```

**Output:**

UserName nit

Password Nit123

Welcome

### **str.upper()**

Return a copy of the string with all the cased characters converted to uppercase.

```
>>> str1="abc"
>>> str2=str1.upper()
>>> print(str1,str2,sep="\n")
abc
ABC
```

### **Example:**

```
names=["naresh","RAMESH","suresh","Rajesh","kishore"]
for name in names:
    print(name.upper())
```

### **Output:**

```
NARESH
RAMESH
SURESH
RAJESH
KISHORE
```

### **str.swapcase()**

Return a copy of the string with uppercase characters converted to lowercase and vice versa. Note that it is not necessarily true that `s.swapcase().swapcase() == s`.

```
>>> str1="nARESH"
```

```
>>> str2=str1.swapcase()
>>> print(str1,str2,sep="\n")
nARESH
Naresh
```

### **Example:**

# Write a program to swapcase the input string

```
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)

print(str1)
print(str2)
```

### **Output:**

```
Enter any string ABcDef
ABcDef
abCdEF
```

### **str.title()**

Return a titlecased version of the string where words start with an uppercase character and the remaining characters are lowercase.

```
>>> str1="python programming language"
>>> str2=str1.title()
>>> print(str1)
python programming language
```

```
>>> print(str2)
Python Programming Language
```

## **String examine methods**

### **str.isalnum()**

Return True if all characters in the string are alphanumeric and there is at least one character, False otherwise.

```
>>> "abc".isalnum()
True
>>> "abc123".isalnum()
True
>>> "123".isalnum()
True
>>> "abc$".isalnum()
False
>>> "abc123$".isalnum()
False
```