In [1]:
```
name="kishor"
```

In [2]:
```
name.swapcase()
```

Out[2]:
```
'KISHOR'
```

In [3]:
```
name.title()
```

Out[3]:
```
'Kishor'
```

In [2]:
```
string="Data science masters"
```

In [3]:
```
string
```

Out[3]:
```
'Data science masters'
```

Reversing function

In [11]:
```
" ".join(reversed(string))
```

Out[11]:
```
's r e t s a m   e c n e i c s   a t a D'
```

In [19]:
```
" * ".join(reversed("ant"))
```

Out[19]:
```
't * n * a'
```

In [20]:
```
" * ".join(("ant"))
```

Out[20]:
```
'a * n * t'
```

In [21]:
```
list(reversed("kishor"))
```

Out[21]:
```
['r', 'o', 'h', 's', 'i', 'k']
```

In [22]:
```
str1="pw is a good company"
```

In [23]:
```
"$".join(str1)
```

Out[23]:
```
'p$w$ $i$s$ $a$ $g$o$o$d$ $c$o$m$p$a$n$y'
```

In [28]:
```
for i in list((str1)):
    print(i)
```

```
p
w

i
s

a

g
o
o
d

c
o
m
p
a
n
y
```

In [29]:
```
for i in list((str1)):
    print(i,end=" ")
```

```
p w   i s   a   g o o d   c o m p a n y
```

In [30]:
```
# removeing character from the end of the string
```

In [31]:
```
string_a=" pwskills "
```

In [33]:
```
string_a.strip()
```

Out[33]:
```
'pwskills'
```

In [37]:
```
string_a.lstrip(" ")
```

Out[37]:
```
'pwskills'
```

In [38]:
```
string_a.rstrip(" ")
```

Out[38]:
```
'pwskills'
```

In [39]:
```
string_b="Greeting to Pwskills"
```

In [40]:
```
string_b.replace("to","from")
```

Out[40]:
```
'Greeting from Pwskills'
```

In [42]:
```
string_n="test@gmail.com"
var_1=string_n.replace("@","#")
var_1
```

Out[42]:
```
'test#gmail.com'
```

In [44]:
```
'kishor\tkurhe'.expandtabs()
```

Out[44]:
```
'kishor  kurhe'
```

In [56]:
```
STR1="Welcome to pwskills to Dat cience masters"
kk1=STR1.replace("Dat","DATA").replace("cience","science")
```

In [57]:
```
kk1
```

Out[57]:
```
'Welcome to pwskills to DATA science masters'
```

In [52]:
```
STR1.isupper()
```

Out[52]:
```
False
```

In [54]:
```
STR1.upper()
```

Out[54]:
```
'WELCOME TO PWSKILLS TO DAT CIENCE MASTERS'
```

In [59]:
```
STR1.startswith("W")
```

Out[59]:
```
True
```

In [60]:
```
## to count the number of character in the string
```

In [64]:
```
count=0
for i in STR1:
    count=count+1
print(count)
```

```
41
```

In [65]:
```
len(STR1)
```

Out[65]:
```
41
```

In [67]:
```
str2="kishor kurhe"
for i in range(len(str2)):
    print(str2[i])
```

```
k
i
s
h
o
r

k
u
r
h
e
```

In [3]:
```
str2="kishor kurhe"
for i in range(len(str2)):
    print(i,"=",str2[i])
```

```
0 = k
1 = i
2 = s
3 = h
4 = o
5 = r
6 =
7 = k
8 = u
9 = r
10 = h
11 = e
```

In [ ]:
```
# we can use index to iterative string reverse direction
```

In [7]:
```
for i in range(len(str2)-1,-1,-1):
    print(i,"=",str2[i])
```

```
11 = e
10 = h
9 = r
8 = u
7 = k
6 =
5 = r
4 = o
3 = h
2 = s
1 = i
0 = k
```

In [12]:
```
string="pwskills"
ch=len(string)-1
while ch>=0:
    print(string[ch],end=" ")
    ch=ch-1
```

```
s l l i k s w p
```

In [18]:
```
string="pwskills"
ch=len(string)-1
while ch>=0:
    print(string[ch])
    ch=ch-1
```

```
s
l
l
i
k
s
w
p
```

In [20]:
```
string[7],string[6]
```

Out[20]:
```
('s', 'l')
```

In [21]:
```
for i in range(len(string)):
    print(string[len(string)-(i+1)])
```

```
s
l
l
i
k
s
w
p
```

In [22]:
```
name="kishor"
vowels="aeiou"
```

In [26]:
```
for i in(name):
    if i in vowels:
        print("{} it is a vowels".format(i))
    else:
        print("{} it is a not vowels".format(i))
```

```
k it is a not vowels
i it is a vowels
s it is a not vowels
h it is a not vowels
o it is a vowels
r it is a not vowels
```

LIST

In [5]:
```
str1="PW skills Data science Masters"
```

In [6]:
```
str1
```

Out[6]:
```
'PW skills Data science Masters'
```

In [9]:
```
list(str1)
```

Out[9]:
```
['P',
 'W',
 ' ',
 's',
 'k',
 'i',
 'l',
 'l',
 's',
 ' ',
 'D',
 'a',
 't',
 'a',
 ' ',
 's',
 'c',
 'i',
 'e',
 'n',
 'c',
 'e',
 ' ',
 'M',
 'a',
 's',
 't',
 'e',
 'r',
 's']
```

In [11]:
```
list(str1.split(" "))
```

Out[11]:
```
['PW', 'skills', 'Data', 'science', 'Masters']
```

In [13]:
```
list1=str1.split(" ")
```

In [14]:
```
list1
```

Out[14]:
```
['PW', 'skills', 'Data', 'science', 'Masters']
```

In [15]:
```
len(list1)
```

Out[15]:
```
5
```

In [18]:
```
list1[2]
```

Out[18]:
```
'Data'
```

In [21]:
```
list1[2]="kk"
```

In [22]:
```
list1
```

Out[22]:
```
['PW', 'skills', 'kk', 'science', 'Masters']
```

In [23]:
```
list1[::-1]
```

Out[23]:
```
['Masters', 'science', 'kk', 'skills', 'PW']
```

In [27]:
```
list1[3:2:-1]
```

Out[27]:
```
['science']
```

In [31]:
```
list1+ ["new element",45]
```

Out[31]:
```
['PW', 'skills', 'kk', 'science', 'Masters', 'new element', 45]
```

In [34]:
```
list2=list1+ [["new element",45]]
```

In [38]:
```
list2[-1]
```

Out[38]:
```
['new element', 45]
```

In [39]:
```
list1*2
```

Out[39]:
```
['PW',
 'skills',
 'kk',
 'science',
 'Masters',
 'PW',
 'skills',
 'kk',
 'science',
 'Masters']
```

In [40]:
```
list1
```

Out[40]:
```
['PW', 'skills', 'kk', 'science', 'Masters']
```

In [47]:
```
for i in list1:
    if i=="science":
        print(i)
```

```
science
```

In [48]:
```
for element in list1:
    if element=="kk":
        print(element)
```

```
kk
```

In [49]:
```
# check element inside a list
```

In [50]:
```
lst=[1,2,3,4,5,6]
5 in lst
```

Out[50]: True

In [56]:
```
list2=["Tiger","monkey","lion","donkey"]
list3=[1,2,3,4,5,6,7,9,8]
```

In [57]:
```
print(max(list2)) #asci value it gives
```

```
monkey
```

In [58]:
```
max(list3)
```

Out[58]: 9

In [59]:
```
min(list3)
```

Out[59]: 1

In [61]:
```
min(list2)
```

Out[61]: 'Tiger'

In [62]:
```
## Append
```

In [63]:
```
kk=[1,2,3,4,5,6]
kk.append("k")
```

In [64]:
```
print(kk)
```

```
[1, 2, 3, 4, 5, 6, 'k']
```

In [67]:
```
kk.pop()
```

Out[67]: 'k'

In [68]:
```
kk
```

Out[68]: [1, 2, 3, 4, 5, 6]

In [69]:
```
#sorting and reversing method in list
```

In [70]:
```
new_list=["h","b","f","g","d"]
new_list.reverse()
```

In [71]:
```
new_list
```

Out[71]: ['d', 'g', 'f', 'b', 'h']

In [72]:
```
new_list.sort()
```

In [73]:
```
new_list
```

Out[73]: ['b', 'd', 'f', 'g', 'h']

nested list

In [79]:
```
new_list.extend("a")
```

In [80]:
```
new_list
```

Out[80]:
```
['b', 'd', 'f', 'g', 'h', '0', 'a']
```

In [81]:
```
kk1=[1,2,3]
kk2=[4,5,6]
kk3=[7,8,9]

matrix=[kk1,kk2,kk3]
```

In [82]:
```
matrix
```

Out[82]:
```
[[1, 2, 3], [4, 5, 6], [7, 8, 9]]
```

In [83]:
```
matrix[1]
```

Out[83]:
```
[4, 5, 6]
```

In [84]:
```
matrix[1][2]
```

Out[84]:
```
6
```

In [85]:
```
matrix[1][1:]
```

Out[85]:
```
[5, 6]
```

In [93]:
```
matrix[:]
```

Out[93]:
```
[[1, 2, 3], [4, 5, 6], [7, 8, 9]]
```

In [94]:
```
## list comperhension
```

In [97]:
```
for i in  range(1,20):
    print(i)
```

```
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
```

In [3]:
```
lst=[1,2,3,4,5,6,7,8]
even_sum=0
odd_sum=0
for i in lst:
    if i%2==0:
        even_sum+=i
    else:
        odd_sum+=i
```

In [4]:
```
print(even_sum)
print(odd_sum)
```

```
20
16
```

In [12]:
```
even_sum=sum([num for num in lst if num%2==0])
```

In [13]:
```
even_sum
```

Out[13]: 20

In [18]:
```
odd_sum=sum([num for num in lst if num%2==1])
```

In [19]:
```
odd_sum
```

Out[19]: 16

In [22]:
```
[num*2 for num in lst]
```

Out[22]: [2, 4, 6, 8, 10, 12, 14, 16]

In [23]:
```
list1=[-1,-2,-3,1,2,3,4,5]
```

In [26]:
```
[num for num in list1 if num<0]
```

Out[26]:
```
[-1, -2, -3]
```

In [27]:
```
# create a list of only the first letter of words in list
```

In [28]:
```
words=["apple","Banana","cherry","date"]
```

In [32]:
```
[word[0] for word in words ]
```

Out[32]:
```
['a', 'B', 'c', 'd']
```

In [33]:
```
celsius_temprature=[10,20,30,40]
```

In [37]:
```
[(9/5)*temp+32 for temp in celsius_temprature]
```

Out[37]:
```
[50.0, 68.0, 86.0, 104.0]
```

In [38]:
```
lists=[[1,2,3],[4,5,6],[7,8,9]]
```

In [49]:
```
[num for sublist in lists for num in sublist]
```

Out[49]:
```
[1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [56]:
```
list1=[1,2,3,4,5,6,7,8,9,10]
```

In [60]:
```
[num for num in list1 if num%2==1 and num/2!=0]
```

Out[60]:
```
[1, 3, 5, 7, 9]
```

In [ ]:
```

```

In [64]:
```
num1=23
num2=44
num2=2+3j
num1=num2.imag
```

In [65]:
```
num2-num1
```

Out[65]:
```
(-1+3j)
```

In [70]:
```
"pwskills"+str(1)
```

Out[70]:
```
'pwskills1'
```

In [75]:
```
pw_100="kk"
```

In [76]:
```
pw_100
```

Out[76]:
```
'kk'
```

In [ ]:
```
name=""
```