**EX5: Python programming using strings**

**Aim**

To use understand and solve problems using string manupulation

**Q.No 1** What will be output of the following string operations

Mysubj = “Computer Science”

1. print(Mysubj[0:len(Mysubj)])
2. print(Mysubj[len(Mysubj)-1])
3. print(2\* Mysubj)
4. print(Mysubj[::-2])
5. print(Mysubj[:3] + Mysubj[3:])
6. print(Mysubj.swapcase())
7. print(Mysubj.startswith(‘Comp’))
8. print(Mysubj.isaplha())
9. print(Mysubj.upper())
10. print(Mysubj.count(‘put’))
11. print(Mysubj.find(‘Sci’))
12. print(Mysubj.index(‘Science’))

m)print(Mysubj.replace(‘Engineering’,’Science))

n) print(Mysubj.split(‘ ‘))

OUTPUT

a)Computer Science

b)e

c)Computer ScienceComputer Science

d)eniSrtpo

e)Computer Science

f)cOMPUTER sCIENCE

g)True

h)False

i)COMPUTER SCIENCE

1. 1
2. 9
3. 9

m)Computer Science

n)['Computer', 'Science']

2 .Print the output of the following : Str = “String Slicing in Python”

print(Str[13:18])

print(Str[-2:-4:-2])

print(Str[12:8:2])

print(Str[-17:-1:1])

print(Str[-6:-20:-2])

print(Str[0:9:3]

print(Str[19:29])

print(Str[-6:-9:-3])

print(Str[-9:-0:-1])

print(Str[2:16:3]

OUTPUT

g in o

Slicing in Pytho

Pn ncl

Si ython P

i gnicilS gnirt

rgli

3 .Write a Python program to calculate the length of a string and to print the index of the character in a string without library function

Python code:

#Assignment 5

#3. Write a Python program to calculate the length of a string and to print the index of

#the character in a string without library function

l=0

a=input('Enter a string:')

for x in a:

l+=1

print('length',l)

b=input('Enter the character whose index is to be found:')

for x in range(l):

if a[x]==b:

print(a[x],x)

Test cases:

Enter a string:helloeveryone

length 13

Enter the character whose index is to be found:l

l 2

l 3

============================= RESTART: D:/index.py =============================

Enter a string:blackpink

length 9

Enter the character whose index is to be found:k

k 4

k 8

4 . Write a Python program to count the number of occurrences of a substring in a given string and print the starting index of the substring for each occurrence. If the

substring is not found in the given string return 'Not found'.

Python code:

'''Write a Python program to count the number of occurrences of a substring in agiven string and print the starting index of the substring for each occurrence. If thesubstring is not found in the given string return 'Not found'''

prev=0

sub=input("enter the substring")

string=input("enter the string")

if sub in string:

count=string.count(sub)

print(count,"no. of occurances")

for i in range(0,len(string)):

x=string.find(sub,i)

if x==-1 :

pass

else:

if x==prev and prev!=0:

pass

else:

print(x)

prev=x

else:

print("not found")

Test cases:

=========================== RESTART: D:/occurance.py===========================

enter the substring hi

enter the stringhihowareyou

1 no. of occurances

0

====================================== RESTART: D:/occurance.py =====================================

enter the substringjelly

enter the stringpenutbutterjelly

1 no. of occurances

11

5. Write a Python program to check whether a given string is a palindrome or not

Python code:

#Assignment 5

# string is palindrome or not

a=input('Enter string:')

if a==a[::-1]:

print("String is a palindrome")

else:

print('Not palindrome')

Test cases:

===================================== RESTART: D:/pallindrome.py ====================================

Enter string:malayalam

String is a palindrome

===================================== RESTART: D:/pallindrome.py ====================================

Enter string:hello

Not palindrome

6.Write a Python program to count Uppercase, Lowercase, special character and numeric values in a given string

Python code:

#Write a Python program to count Uppercase, Lowercase, special character andnumeric values in a given string.

upper,lower,special,num=0

string=input("Enter the string")

for i in range (len(string)):

if string[i].isupper()==True:

upper+=1

elif string[i].islower()==True:

lower+=1

elif string[i] in "1234567890":

num+=1

else:

special+=1

print("The number of upper characters are",upper)

print("The number of lower characters are",lower)

print("The number of special characters are",special)

print("The number of numeric characters are",num)

TEST CASES:

======================================== RESTART: D:/type.py ========================================

Enter the stringJellyFishes12$%k

The number of upper characters are 2

The number of lower characters are 10

The number of special characters are 2

The number of numeric characters are 2

======================================== RESTART: D:/type.py ========================================

Enter the stringhelloworld1234^^

The number of upper characters are 0

The number of lower characters are 10

The number of special characters are 2

The number of numeric characters are 4

1. Write a Python program to sort a string lexicographically without library function

Python code:

#program to sort the elements of a string in lexographical order

string = list(input("Enter a string: "))

swap = True

while swap:

swap=False

for i in range(len(string)):

for j in range(i+1, len(string)):

if string[i] > string[j]:

string[j], string[i] = string[i], string[j]

swap=True

print(''.join(string))

Test cases:

======================================== RESTART: D:/lexo1.py =======================================

Enter a string: Happypongalforeveryone

Haaeeefglnnoooppprrvyy

Enter a string: SingandDancelikethereisnotomorrow

DSaacdeeeeghiiiklmnnnnoooorrrsttw

1. Write a Python program to delete all occurrences of a specified character in a given string without using in built functions

Python code:

# Write a Python program to delete all occurrences of a specified character in agiven string without using in built functions.

str=""

string=input("Enter the string")

sub=input("Enter the sub string")

for i in range(0,len(string)):

if sub==string[i]:

continue

else:

str+=string[i]

print(str)

TEST CASES:

========================================= RESTART: D:/del.py ========================================

Enter the stringhiyahelloeveryone

Enter the sub stringh

iyaelloeveryone

1. Write a menu driven program to perform the following using inbuilt functions:
2. First occurrence of a substring from the end.
3. Right justify a string.
4. Capitalize the first letter of a string.
5. Check whether the string is alphanumeric.
6. Partition the given text into three parts

d='y' while d=='y':

print("""a. First occurrence of a substring from the end.

1. Right justify a string.
2. Capitalize the first letter of a string.
3. Check whether the string is alphanumeric.
4. Partition the given text into three parts""")

Python code:

#Assignment 5

#menu driven

'''a. First occurrence of a substring from the end.

b. Right justify a string.

c. Capitalize the first letter of a string.

d. Check whether the string is alphanumeric.

e. Partition the given text into three parts

f. end'''

print('a. First occurrence of a substring from the end. ','b. Right justify a string.',\

'c. Capitalize the first letter of a string.','d. Check whether the string is alphanumeric.',\

'e. Partition the given text into three parts''f.end',sep='\n')

while True:

i=input('Enter option:')

k=input('Enter string:')

if i.lower()=='a':

b=input('Enter substring:')

print(k.index(b,-len(k),-1))

elif i.lower()=='b':

m=int(input('Enter number of spaces'))

print(k.rjust(m))

elif i.lower()=='c':

print(k.capitalize())

elif i.lower()=='d':

if k.isalnum():

print('Alphanumeric')

elif i.lower()=='e':

value=input("enter the middle value")

print(k.partition(value))

elif i.lower()=='f':

break

else:

print('Invalid input')

**Output**

===================================== RESTART: D:/menudriven.py =====================================

a. First occurrence of a substring from the end.

b. Right justify a string.

c. Capitalize the first letter of a string.

d. Check whether the string is alphanumeric.

e. Partition the given text into three partsf.end

Enter option:c

Enter string:beliveingoodness

Beliveingoodness

Enter option:e

Enter string:hiandhello

enter the middle valueand

('hi', 'and', 'hello')

Enter option:f

PART B:optional

Question 1:

Write a python program that replaces all the vowels in the string with \*

Python code:

#Write a python program that replaces all the vowels in the string with ‘\*’

str=""

string=input("enter the string")

for i in range(len(string)):

if string[i] in "aeiou":

str+="\*"

else:

str+=string[i]

print(str)

Test cases:

======================================== RESTART: D:/vowel.py =======================================

enter the stringhelloangel

h\*ll\*\*ng\*l

======================================== RESTART: D:/vowel.py =======================================

enter the stringi\_like\_python\_programming\_so\_much

\*\_l\*k\*\_pyth\*n\_pr\*gr\*mm\*ng\_s\*\_m\*ch

Question2:

Write a python program to replace each character of a word of length five and more with a hash character:

Python code:

#Python program to replace each character of a word of length 5 and more with a hash character

string=input("Enter the string")

if len(string)<5:

print(string)

else:

print("#"\*len(string))

Test cases:

======================================== RESTART: D:/hash.py ========================================

Enter the stringlillyevans

##########

======================================== RESTART: D:/hash.py ========================================

Enter the stringfish

Fish

Question 3:

3. Write a program that takes user’s name and PAN card number. Validate the information using string functions

Python code:

======================================= RESTART: D:/namepan.py ======================================

Enter your nameBiancaa

You have entered a valid name

Enter your pan idabcdw1234f

You have entered a valid pan

======================================= RESTART: D:/namepan.py ======================================

Enter your nameBlink

You have entered a valid name

Enter your pan idqsfgt2346i

You have entered a valid pan

======================================= RESTART: D:/namepan.py ======================================

Enter your namegliesh

You have entered a valid name

Enter your pan idghwjhbxd

You have entered an invalid pan

4. Write a Python program to parse an email id to print from which email server it was sent

Python code:

#Write a Python program to parse an email id to print from which email server it wassent

email=input("enter the email id")

email=email.split(".")

print(email[-2],"is the email sever of the email id")

Test cases:

======================================= RESTART: D:/server.py =======================================

enter the email idBiancaaramesh@gmail.com

gmail is the email sever of the email id

5. Write a python program that reads a sentence, where each word is separated by a space. The program should replace each blank with a hyphen 6. Write a Python program to strip a set of characters from a string Encrypt a given message by “rotating” each letter by a fixed number of places. To rotate a letter means to shift it through the alphabet, wrapping around to the beginning if necessary, so ‘A’ rotated by 3 is ‘D’ and ‘Z’ rotated by 1 is ‘A’. Write a function called rotate\_word that takes a string and an integer as parameters, and returns a new string that contains the letters from the original string rotated by the given amount. E.g Given String: HAL Encrypted String: JCN (Rotated by 2)

Python code:

#String rotation:

i=int(input("Enter the amount of rotation"))

string=input("enter the string to be rotated")

alpha="abcdefghijklmnopqrstuvwxyz"

for j in string:

if j in alpha:

k=alpha.index(j)

k=k+i

if k>25:

k=k-25

print(alpha[k])

TEST CASES:

====================================== RESTART: D:/rotation.py ======================================

Enter the amount of rotation5

enter the string to be rotatedfiles

k

n

q

j

x

====================================== RESTART: D:/rotation.py ======================================

Enter the amount of rotation10

enter the string to be rotatedJollyandhappiness

y

v

v

j

k

x

n

r

k

z

z

s

x

o

d

d

**Learning Outcomes**

The objective of learning methods associated with strings is achieved