Week 5- Programs on Iterative constructs, Lists and Tuples

Program 1	Separate the following list to different lists based on following criteria i) starts with 'pizza' ii) Ends with 'puri' iii) Ends with 'dosa' Input: l=['pani puri','dosa','bhel puri','masala dosa','dahi puri','rava dosa','pizza topings','pizza mania']
	Algorithm **i)create 3 different lists** **ii)use if function** **iii)use append function** **iv)use print function**

	Program with output
	`l=["panipuri","dosa","bhelpuri","masala dosa","dahipuri","ravadosa","pizza topings","pizza mania"]`
	`chat=[]`
	`dosa=[]`
	`pizza=[]`
	`for s in l:`
	`  if(s.endswith("puri")):`
	`  chat.append(s)`
	`  if (s.endswith("dosa")):`
	`  dosa.append(s)`
	`  if(s.startswith("pizza")):`
	`  pizza.append(s)`
	`print("chats = ",chat,"\ndosa = ",dosa,"\npizza = ",pizza)`

	Output
	`chats = ['panipuri', 'bhelpuri', 'dahipuri']`
	`dosa = ['dosa', 'masala dosa', 'ravadosa']`
	`pizza = ['pizza topings', 'pizza mania']`
	`>>>`

Program 2	**a)** Print the given data in the string as formal letter, with one sentence in each line. b) display given list of data as mac address. mac=['00','11','23','45','67','70'] **c)** send festival greetings to friends all friends in the list **d)** Given , Srn's as strings each separated by space, replace PESU in place of PE in first 3 srn's. also find if user given srn is present or not.
	Algorithm **a)** **use \n to create new line and print the string as a formal letter** **b)** **use the join function to join : after each index** **c)** **use join function to join happy festival after each index** **d)use replace for replacing all the**
	Program

```
#a)
s='''Respected Sir,\n I am here by enlisting all the programming languages we teach\n problem solving using python
 object oriented programming with C++\n java programming \nThanking You '''
pro_l=s.split(sep='\n')
for l in pro_l:
    print(l.title())
print("")
#b)
mac=['00','11','23','45','67','70']
print(':'.join(mac))
print("")
#c)
frnd=["","ram","sita","raj","joy","joe"]
print("  happy festival ".join(frnd))
print("")
#d)
srn="PE01 PE02 PE03 PE04 PE05 PE06 PE07 PE08 PE09 PE10"
print("Before replace :",srn)
rsrn = srn.replace("PE","PESU",3)
print("After replace : ",rsrn)
ser_srn = input("enter the srn to be search ")
found = rsrn.find(ser_srn.upper())
if(found>0):
    print(" is found at index ",found)
else:
    print(" srn not found")
```

Output

```
Respected Sir,
 I Am Here By Enlisting All The Programming Languages We Teach
 Problem Solving Using Python
 Object Oriented Programming With C++
 Java Programming
Thanking You

00:11:23:45:67:70

  happy festival ram  happy festival sita  happy festival raj  happy festival joy  happy festival joe

Before replace : PE01 PE02 PE03 PE04 PE05 PE06 PE07 PE08 PE09 PE10
After replace :  PESU01 PESU02 PESU03 PE04 PE05 PE06 PE07 PE08 PE09 PE10
enter the srn to be search PESU09
 srn not found
>>>
```

Program 3

a) given list of captains and teams(in respective order) assign them to IPL Teams.
b) Given list of tuples, where each tuple takes pattern (name,marks) of a student, display only names.

Algorithm

a)
1) input the list
2)assign the list using zip function
b)
1)take a list of tuples
2)and use the zip function to display only the names

Program

```
#a)
cap_list = ["Kohli","Dhoni","Rohit"]
team_list = ["RCB","CSK","MI"]
result = zip(cap_list, team_list)
print(result) #diplays zip object as a wrapper
#hence Converting to list
result_list = list(result)
print(result_list)
print("")
#b)
score=[("Akash",85),("Arvind",80),("Ashu",95),("Bhavana",90),("Bhavik",87)]
names_marks = list(zip(*score))
print(names_marks[0])
```

Output

```
<zip object at 0x000001444F183EC0>
[('Kohli', 'RCB'), ('Dhoni', 'CSK'), ('Rohit', 'MI')]

('Akash', 'Arvind', 'Ashu', 'Bhavana', 'Bhavik')
>>>
```

Program 4

a) Given mohanDas Karamchand gandhi' print i)"m K gandhi" ii) M K GANDHI iii) M K Gandhi iv) Mohandas Karamchand Gandhi

b) Given s = "bad python bad teacher bad lecture"

- **i) Replace all occurrences of bad to good**
- **ii) Replace first occurrence of bad to good**
- **iii) find the leftmost bad**
- **iv) find the second bad from left**
- v) **Replace the second bad to worst and display from that point of string and also display the whole string**

Algorithm

a

1) use the split function and then list
2) upper function to convert to uppercase
3) and print the function

b)

1)given the string
2) use replace function to replace bad with good
3) print the output

Program

```
#a)
s= "mohandas Karamchand gandhi"
ss = ""
namelist = s.split()
for name in namelist[:len(namelist)-1]:
    ss=ss+name[0]+" "
ss=ss+namelist[-1]
print(ss)
#ss in uppercase
ss=ss.upper()
print(ss)
ss= ss.title()
print(ss)
s=s.title()
print(s)

print("")

#b)
s="bad python bad teacher bad lecture"
print("Replace all occurrences of bad to good = ",s.replace("bad","good"))
print("Replace first occurrence of bad to good = ",s.replace("bad","good",1))
s="bad python bad teacher bad lecture"
print("the leftmost bad is = ",s.index("bad"))
print("the second bad from left is = ",s.index("bad",s.index("bad")+len("bad")))
i=s.index("bad",s.index("bad")+len("bad"))
print(s[i:].replace("bad","worst",1))
print(s[:i]+s[i:].replace("bad","worst",1))
```

Output

```
m K gandhi
M K GANDHI
M K Gandhi
Mohandas Karamchand Gandhi

Replace all occurrences of bad to good = good python good teacher good lecture
Replace first occurrence of bad to good = good python bad teacher bad lecture
the leftmost bad is =  0
the second bad from left is =  11
worst teacher bad lecture
bad python worst teacher bad lecture
>>>
```

Program 5

a) String encoding

i) the first letter of each word is printed at the end.

ii) In the second case, after each character, a p is printed.

Algorithm

I)

1)choose the given string

2)use the split function

ii)use line break

Program

```
s="We love python very much"
for w in s.split():
    print(w[1:],end = "")
    print(w[0],end=" ")
print()
for ch in s:
    print(ch,end ="")
    print('p',end = "")
print()
```

Output

```
eW ovel ythonp eryv uchm
Wpep plpopvpep pppyptphpopnp pvpeprpyp pmpupcphp
>>>
```