```
##Lab-5
1.Task:1
Take: Take a string --'Programming'
Create:Now create a list using the letters of the string
Remove:remove "P" from the list
Print:Print the output
'''

##create-1
def making_list(string_1):
    li=list(string_1.split(','));
    return li;
stringIs='programming';
print(making_list(stringIs));
##create-2
str_1='programming';
listIs=list(str_1);
print(listIs);
##Remove
##Remove p from the list
removeIs=listIs.remove('p');
print(listIs);
'''
Task:2
Create:Create a list of numbers from 1-10
Remove:Remove last three list items  using pop method
create:Create another list of fruit names
Extend:Extend this with the number list
print:print the output
Create an empty list using list constructor insert through insert fruits name
print through loope like
-I like apple
-I like banana
-I like mango
'''
##create a list of numbers from 1-10
listfrom_1_10=[1,2,3,4,5,6,7,8,9,10];
print(listfrom_1_10);
##Remove 3 last list items using pop method
pop_1=listfrom_1_10.pop();
pop_2=listfrom_1_10.pop();
pop_3=listfrom_1_10.pop();
print(listfrom_1_10)
###Createing another fruit list
fruit_list=['Banana','Guava','Mango','Apple'];
###extend  fruit list with the number list
fruit_list.extend(listfrom_1_10);
print('The extend list is',fruit_list);
##Create an empty list using list constructor insert through insert fruits
name
emptyListoist=list();
##Using looope and print
##using for loope
for i in range(0,2):
  emptyListoist.append('apple');
  emptyListoist.append('banana');
  emptyListoist.append('mango');
```

```
print(emptyListoist[:]);
print('I like',emptyListoist[0]);
print('I like',emptyListoist[1]);
print('I like',emptyListoist[2]);
```

Output:

Task-1: ['programming']

['p', 'r', 'o', 'g', 'r', 'a', 'm', 'm', 'i', 'n', 'g']

['r', 'o', 'g', 'r', 'a', 'm', 'm', 'i', 'n', 'g']

Task-2

[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

[1, 2, 3, 4, 5, 6, 7]

The extend list is ['Banana', 'Guava', 'Mango', 'Apple', 1, 2, 3, 4, 5, 6, 7]

['apple', 'banana', 'mango', 'apple', 'banana', 'mango']

I like apple

I like banana

I like mango

```
##Lab-6
'''
Task:1
Craete a tuple
Find the size of a tuple
compare it with the size of list having exactly same elements
'''
import  sys;
makingTuple=(
'Rifat','Shahriar','Bangladesh',
'India','China','Indonesia',
 'Bali','Saudaia Arabia'
);
makingList=[
'Rifat','Shahriar','Bangladesh',
'India','China','Indonesia',
 'Bali','Saudaia Arabia'
]
##Compare the size of List and Tuple
print('The Size of the turpel  is',str(sys.getsizeof(makingTuple)),'bytes');
```

```
print('The Size of the List is',str(sys.getsizeof((makingList))),'bytes');
'''
Task:2
Create a tuple of numbers as its elements
Write a code to display sum of all the elements of this tuple
if the sum is even display "the sum is even";
if the sum is odd disply "the sum is odd"
'''
Number_Turple=(
    1,2,3,4,5,6,7,6,7,8,9,10,11,12,
    13,14,16,17,18,19,20,21,22,23,
    24,25,26,27,28,29,30,31,32,33
)
sumOfTurple=0;
for i in range(len(Number_Turple)):
   sumOfTurple+=Number_Turple[i];
print('The sum of Turpel all element is',sumOfTurple);
if(sumOfTurple%2==0) :print('The sum is even');
else :print('The sum is odd');

'''
Task-3
Create the tuple
count the elements of tuple Using for loope display all elements of tuple
New display only even index tuple elements
Make a list cntaing all odd indexed tuple elements

'''
making_tuple_3=(
    10,20,300,100,200,300,400,500,
    600,700,800,900,1000,1100,12000,
    30000,5666,4545,5000
)
# print(len(making_tuple_3));
# for i in range(len(making_tuple_3)):print(making_tuple_3)
```

Output:

Task1:

The Size of the turpel is 104 bytes

The Size of the List is 120 bytes

Task2:

The sum of Turpel all element is 559

The sum is odd

```
##Lab7
'''
Merge 2 Dictionary
'''
marks_dictionary={
    'Introduction to Python':88,
    'Introduction to Cloud':87,
    'Community Connect':70,
    'Introduction to Php':81
};
studentInformation_Dictionary={
    'Rifat':2019005005,
    'Rimon':20190006006,
    'Rifa':2019007007,
    'Shahriar':201963636,
}
margeOftwoDictionbaryIs=marks_dictionary,studentInformation_Dictionary;
print('Marge of 2 Dictionary is=',margeOftwoDictionbaryIs);


'''
Create Dictionary of marksof different subjects and calculate the avarge
marks
'''
print('The Original Dictionary is',str(marks_dictionary));
sumOfMarksDictionary=0;
###Using loope function is
for val in marks_dictionary.values():
    sumOfMarksDictionary+=val;
print('The sum of the  dictionary is',sumOfMarksDictionary);
avarageMarksIs=sumOfMarksDictionary/5;
print('The Avarage marks is',avarageMarksIs);
```

Output:

Marge of 2 Dictionary is= ({'Introduction to Python': 88, 'Introduction to Cloud': 87, 'Community Connect': 70, 'Introduction to Php': 81}, {'Rifat': 2019005005, 'Rimon': 20190006006, 'Rifa': 2019007007, 'Shahriar': 201963636})

The Original Dictionary is {'Introduction to Python': 88, 'Introduction to Cloud': 87, 'Community Connect': 70, 'Introduction to Php': 81}

The sum of the dictionary is 326

The Avarage marks is 65.2

```
##Lab-8
'''
1.Write a Python Program containg
Task:1
=>Simple function
=>Function with arguments
=>Function with arguments and return value
'''
def my_name():
    print('I am  a computer Programmer');
my_name();
def sumIs(first_number,second_number):
    sum=first_number+second_number;
    print(sum);
sumIs(100,200);
def mathematiocal_operation(first_number,second_number):
    return first_number+second_number;
print(mathematiocal_operation(200,300));
'''
Task:2-Write a Python Program to perform linear search using function
'''

def linearsearch(arr, x):
   for i in range(len(arr)):
      if arr[i] == x:
         return i
   return -1
arr = ['t','u','t','o','r','i','a','l']
x = 'a'
print("element found at index "+str(linearsearch(arr,x)))
'''
Task:3
Write a Python function to find  maximum of 3 numbers
'''
first_number=int(input('Enter The first number='));
second_number=int(input('Enter The second number='))
third_number=int(input('Enter The third number='));
if first_number>second_number and first_number>third_number:print('Maximum
number is=',first_number);
elif  second_number>first_number and
second_number>third_number:print('Maximum number is',second_number);
else:print('Maximum number is',third_number);

'''
Task:4
Write a  Python function to multiply all the numners in a list

'''
##Without function
List_1=[
    10,20,30,40,50
]
mulIs=1;
for i in List_1:
```

```
    mulIs=mulIs*i;
print('The multiplication of the list  without functionm is',mulIs);
##with Function
def multiplyList(myList):
    # Multiply elements one by one
    result = 1
    for x in myList:
        result = result * x
    return result


# Driver code
list1 = [1, 2, 3]
list2 = [3, 2, 4]
print('The Multiplication of the List-1',multiplyList(list1))
print('The Multiplication of the list-2',multiplyList(list2))
```

```
Output:
I am  a computer Programmer
300
500
element found at index 6
Enter The first number=10
Enter The second number=20
Enter The third number=30
Maximum number is 30
The multiplication of the list  without functionm is 12000000
The Multiplication of the List-1 6
The Multiplication of the list-2 24
```

```
##Lab-9
'''
1.Python Program to print positive numbers in a list using function
'''
# Python program to print positive Numbers in a List

# list of numbers
list1 = [11, -21, 0, 45, 66, -93]

# iterating each number in list
def PositiveIs(list):
    for i in list1:
        if i>0:print(i,end=" ");
PositiveIs(list1);
'''
2.Python Program to remove all the occurrencee of an elements from a list
using function
'''


# Python 3 code to demonstrate
# the removal of all occurrences of a
# given item using list comprehension
```

```python
def remove_items(test_list, item):
    # using list comprehension to perform the task
    res = [i for i in test_list if i != item]

    return res


# driver code
if __name__ == "__main__":

    test_list = [1, 3, 4, 6, 5, 1]
    item = 1

    # printing the original list
    print("The original list is : " + str(test_list))

    # calling the function remove_items()
    res = remove_items(test_list, item)

    # printing result
    print("The list after performing the remove operation is : " + str(res))

'''
3.Python | Remove Redundent Subsstring from  String List using Function
'''
# Python3 code to demonstrate
# removing duplicate substrings
# using set() + split()

test_list = [ 'aa-aa-bb', 'bb-cc', 'gg-ff-gg', 'hh-hh']

print("The original list : " + str(test_list))

# using set() + split()
# removing duplicate substrings
##functio
res = [set(sub.split('-')) for sub in test_list]

print("The list after duplicate removal : " + str(res))

'''
4.Python | program duplicates from a list of integers using Function
'''
# Python program to print
# duplicates from a list
# of integers
def Repeat(x):
    _size = len(x)
    repeated = []
    for i in range(_size):
        k = i + 1
        for j in range(k, _size):
            if x[i] == x[j] and x[i] not in repeated:
                repeated.append(x[i])
    return repeated
```

```
# Driver Code
list1 = [10, 20, 30, 20, 20, 30, 40,
         50, -20, 60, 60, -20, -20]
print('program duplicates from a list of integers using
Function',Repeat(list1))
```

Output:

```
11 45 66
 The original list is : [1, 3, 4, 6, 5, 1]
The list after performing the remove operation is : [3, 4, 6, 5]
The original list : ['aa-aa-bb', 'bb-cc', 'gg-ff-gg', 'hh-hh']
The list after duplicate removal : [{'aa', 'bb'}, {'bb', 'cc'}, {'ff', 'gg'},
{'hh'}]
program duplicates from a list of integers using Function [20, 30, -20, 60]
```