

```
#!/usr/bin/env python
# coding: utf-8

# # Python program to interchange first and last elements in a list
# Given a list, write a Python program to swap first and last element of the list.
# Examples:
# Input : [12, 35, 9, 56, 24]
# Output : [24, 35, 9, 56, 12]
#
# Input : [1, 2, 3]
# Output : [3, 2, 1]

# In[3]:
```

```
l1=[1,2,3,4,5]
l1[0],l1[-1]=l1[-1],l1[0]
l1
```

```
# In[18]:
```

```
a=[12,35,9,56,24]
```

```
length = len(a)
length = len(b)
```

```
temp = a[0]
a[0] = a[length - 1]
a[length - 1] = temp
```

```
print(a)
```

```
# In[ ]:
```

```
I = [12, 35, 9, 56, 24]
p=I[-1]
s=I.pop(0)
q=I.pop()
I.append(s)
I.insert(0,p)
print(I)
```

```
# # WAP to find length of list
# The list is : [1, 4, 5, 7, 8]
# Length of list is : 5
```

#

In[9]:

```
l1=[1, 4, 5, 7, 8]
print("Length of list is : ",len(l1))
```

In[15]:

```
l1=[1, 4, 5, 7, 8, 9]
print("Length of list is : ",l1.index()+1)
```

In[11]:

```
l1=[1, 4, 5, 7, 8]
count=0
for i in l1:
    count+=1
print("Length of list is : ",count)
```

```
# # WAP to Check if element exists in list
#
# Checking if 4 exists in list :
# Element Exists
#
```

In[19]:

```
l1=[1, 4, 5, 7, 8]
n=4
if 4 in l1:print("Element Exists")
```

In[26]:

```
l1=[1, 4, 5, 7, 8]
for i in range(len(l1)):
    if l1[i]==4:print("Element Exists")
```

```
# # WAP to clear a list
# before clear: [6, 0, 4, 1]
#
```

```
# In[33]:
```

```
l1=[1, 4, 5, 7, 8]
l1.clear()
l1
```

```
# In[38]:
```

```
l1=[1, 4, 5, 7, 8]
for i in range (len(l1)):
    l1.remove(l1[-1])
l1
```

```
# In[81]:
```

```
l1=[1, 4, 5, 7, 8]
for i in range (len(l1)):
    l1.pop()
l1
```

```
# In[84]:
```

```
l1=[1, 4, 5, 7, 8]
l1=[]
l1
```

```
# In[85]:
```

```
l1=[1, 4, 5, 7, 8]
l1*=-0
l1
```

```
# # WAP to Reversing a List
# Input : list = [10, 11, 12, 13, 14, 15]
# Output : [15, 14, 13, 12, 11, 10]
#
# Input : list = [4, 5, 6, 7, 8, 9]
# Output : [9, 8, 7, 6, 5, 4]
#
```

```
# In[44]:
```

```
l1 = [10, 11, 12, 13, 14, 15]
l1.reverse()
l1
```

```
# In[45]:
```

```
l1 = [10, 11, 12, 13, 14, 15]
for i in range(len(l1)):
    a=l1.pop()
    l1.insert(i,a)
l1
```

```
# In[46]:
```

```
a=[10, 11, 12, 13, 14, 15]
if len(a)%2!=0:
    c=1
    for i in range(round(len(a)/2)-1):
        a[i]=a[i]+a[len(a)-c]
        a[len(a)-c]=a[i]-a[len(a)-c]
        a[i]=a[i]-a[len(a)-c]
        c+=1
else:
    c=1
    for i in range(round(len(a)/2)):
        a[i]=a[i]+a[len(a)-c]
        a[len(a)-c]=a[i]-a[len(a)-c]
        a[i]=a[i]-a[len(a)-c]
        c+=1
print(a)
```

```
# # Given a list of numbers, write a Python program to find the sum of all the elements in th
# Example:
#
# Input: [12, 15, 3, 10]
# Output: 40
#
# Input: [17, 5, 3, 5]
# Output: 30
#
```

```
# In[47]:
```

```
l1=[12, 15, 3, 10]
```

```
print(sum(l1))
```

```
# In[48]:
```

```
l1=[12, 15, 3, 10]
sum1=0
for i in l1:
    sum1+=i
print(sum1)
```

```
# # Given a list of numbers, the task is to write a Python program to find the second largest
# Examples:
# Input: list1 = [10, 20, 4]
# Output: 10
# Input: list2 = [70, 11, 20, 4, 100]
# Output: 70
#
```

```
# In[69]:
```

```
list1 = [70, 11, 20, 4, 100]
list1.sort()
list1[-2]
```

```
# In[50]:
```

```
list1 = [70, 11, 20, 4, 100]
list2=list1
list2.remove(max(list2))
print(max(list2))
```

```
# In[72]:
```

```
list1 = [70, 11, 20, 4, 100, 100]
list2=list(set(list1))
list2.sort()
list2.pop()
list2[-1]
```

```
# # Given a list of integers, the task is to find N largest elements assuming size of list is
# Examples :
# Input : [4, 5, 1, 2, 9]
#
```

```

#          N = 2
# Output :  [9, 5]
#
# Input :  [81, 52, 45, 10, 3, 2, 96]
#          N = 3
# Output :  [81, 96, 52]
#

```

```

# In[80]:

```

```

l1=[81, 52, 45, 10, 3, 2, 96]
n=int(input())    #4
l2=list(set(l1))
l2.sort()
l2[-(n):]

```

```

# In[87]:

```

```

l1=[81, 52, 45, 10, 3, 2, 96]
n=int(input())
l2=list(set(l1))
l2.sort()
l3=[]
for i in range(n):
    a=l2.pop()
    l3.append(a)
l3

```

```

# In[89]:

```

```

l1=[81, 52, 45, 10, 3, 2, 96]
n=int(input())
l2=list(set(l1))
l2.sort()
l3=[]
for i in range(len(l2)-n,len(l2)):
    l3.append(l2[i])
l3

```

```

# In[90]:

```

```

n=int(input())
l1=[81, 52, 45, 10, 3, 2, 96]

```

```
l1=sorted(l1,reverse=True)
```

```
l2=[]
for i in range(n):
    l2.append(l1[i])
print(l2)
```

```
# # Given a list of numbers, write a Python program to remove multiple elements from a list b
# Example:
# Input: [12, 15, 3, 10]
# Output: Remove = [12, 3], New_List = [15, 10]
#
# Input: [11, 5, 17, 18, 23, 50]
# Output: Remove = [1:5], New_list = [11, 50]
#
```

```
# In[4]:
```

```
l1= [12, 15, 3, 10]
Remove=[12,3]
for r in Remove:
    l1.remove(r)
print("New_list=",l1)
```

```
# In[5]:
```

```
l1= [12, 15, 3, 10]
Remove=[12,3]
for r in Remove:
    i=l1.index(r)
    l1.pop(i)
print("New_list=",l1)
```

```
# In[26]:
```

```
l1= [11, 5, 17, 18, 23, 50]
ip=input("Remove = ")
ip=ip.strip('[]')
Remove=list(map(str,ip))
if Remove[1]==" ":
    j1=int(Remove[0])
    j2=int(Remove[2])
    redu=0
    for k in range(j1,j2):
        l1.pop(k-redu)
        redu+=1
```

```
print("New_list=",l1)
```

```
# Input : lst = [15, 6, 7, 10, 12, 20, 10, 28, 10]
#         x = 10
# Output : 3
# 10 appears three times in given list.
```

```
#
# Input : lst = [8, 6, 8, 10, 8, 20, 10, 8, 8]
#         x = 16
# Output : 0
#
```

```
# In[28]:
```

```
lst = [15, 6, 7, 10, 12, 20, 10, 28, 10]
x=int(input("Enter the number"))
lst.count(x)
```

```
# In[36]:
```

```
lst = [15, 6, 7, 10, 12, 20, 10, 28, 10]
x=int(input("Enter the number"))
count=0
for y in lst:
    if y==x:
        count+=1
count
```

```
# In[ ]:
```

```
# # Given a list of integers with duplicate elements in it. The task to generate another list
# Examples :
```

```
# Input : list = [10, 20, 30, 20, 20, 30, 40, 50, -20, 60, 60, -20, -20]
# Output : output_list = [20, 30, -20, 60]
```

```
#
#
# Input : list = [-1, 1, -1, 8]
# Output : output_list = [-1]
#
```

```
# In[46]:
```



```
list1 = [10, 20, 30, 20, 20, 30, 40, 50, -20, 60, 60, -20, -20]
list2 = [-1, 1, -1, 8]
#val=set(list1)
val=set(list2)
op=[]
for i in val:
    #j=list1.count(i)
    j=list2.count(i)
    if j>1:
        op.append(i)
print(op)
```

```
# In[ ]:
```

```
# # Python program to find Cumulative sum of a list
# The problem statement asks to produce a new list whose ith element will be equal to the
# Examples :
#
# Input : list = [10, 20, 30, 40, 50]
# Output : [10, 30, 60, 100, 150]
#
# Input : list = [4, 10, 15, 18, 20]
# Output : [4, 14, 29, 47, 67]
#
```

```
# In[41]:
```

```
# # Break a list into chunks of size N in Python
# Input: [1, 2, 3, 4, 5, 6, 7, 8, 9]
# Output: [[1, 2, 3, 4], [5, 6, 7, 8], [9]]
#
```

```
# In[ ]:
```

```
# # Remove common elements from two list in Python
```

```
# In[47]:
```

```

l1=[2,4,5,6,8,10,12,14,16,18]
l2=[3,6,9,12,15,18]
for i in l1:
    if (i in l1) and (i in l2):
        l1.remove(i)
        l2.remove(i)
print(l1)
print(l2)

```

```
# In[48]:
```

```
# Given a list of numbers, write a Python program to remove multiple elements from a list bas
#
```

```
# In[ ]:
```

```

a=[12,15,3,10]
b=[12,3,2]
for i in b:
    if i in a:
        a.remove(i)
print(a)

```

```
# In[ ]:
```

```

a=[12,15,3,10]
b=[12,3,2,10]
for i in range(len(b)):
    for j in range(len(a)):
        if b[i]==a[j]:
            a.pop(j)
print(a)

```

```
# In[ ]:
```

```

a=[12,15,3,10]
b=[12,3,2]
for i in b:
    if i in a:
        a.pop(a.index(i))

```

In[]:

```
a=[12,15,3,10]
b=[12,3,2]
a = [ele for ele in a if ele not in b]
print(a)
```

In[]:

```
a= [11, 5, 17, 18, 23, 50]
b= a[1:5]
for i in b:
    if i in a:
        a.pop(a.index(i))
print(a)
```

```
# Input : lst = [15, 6, 7, 10, 12, 20, 10, 28, 10] x = 10 Output : 3 10 appears three times i
#
# Input : lst = [8, 6, 8, 10, 8, 20, 10, 8, 8] x = 16 Output : 0
```

In[1]:

```
lst = [15, 6, 7, 10, 12, 20, 10, 28, 10]
lst.count(10)
```

In[]:

```
lst = [15, 6, 7, 10, 12, 20, 10, 28, 10]
x=10
c=0
for i in lst:
    if x==i:
        c+=1
print(c)
```

Given a list of integers with duplicate elements in it. The task to generate another list,

In[]:

```
list = [10, 20, 30, 20, 20, 30, 40, 50, -20, 60, 60, -20, -20]
```

```
#s=set(list)
b=[]
c=[]
for i in list:
    if i not in b:
        b.append(i)
    else:
        c.append(i)
print(set(c))
```

```
# In[ ]:
```

```
list1 = [10, 20, 30, 20, 20, 30, 40, 50, -20, 60, 60, -20, -20]
list2=[]
for i in list1:
    a=list1.count(i)
    if a!=1:
        for j in range(a-1):
            list1.remove(i)
        list2.append(i)
print(list2)
```

```
# In[ ]:
```

```
list1 = [10, 20, 30, 20, 20, 30, 40, 50, -20, 60, 60, -20, -20]
set1=set(list1)
list2=[]
for i in set1:
    c=0
    for j in list1:
        if i==j:
            c+=1
    if c>1:
        list2.append(i)

print(list2)
```

```
# Python program to find Cumulative sum of a list The problem statement asks to produce a new
#
# Input : list = [10, 20, 30, 40, 50] Output : [10, 30, 60, 100, 150]
#
# Input : list = [4, 10, 15, 18, 20] Output : [4, 14, 29, 47, 67]
```

```
# In[ ]:
```

```
l1 = [10, 20, 30, 40, 50]
l2=[]
a=0
for i in range(len(l1)):
    a+=l1[i]
    l2.append(a)
print(l2)
```

```
# In[ ]:
```

```
list1 = [10, 20, 30, 40, 50]

list2=[]
for i in range(0,len(list1)):
    if i!=0:
        a=list2[i-1]+list1[i]
        list2.append(a)
    else:
        list2.append(list1[i])

print(list2)
```

```
# In[ ]:
```

```
list1 = [10, 20, 30, 40, 50]
l2=[]
l2.append(list1[0])
for i in range(len(list1)-1):

    a=l2[i]+list1[i+1]
    l2.append(a)
print(l2)
```

Break a list into chunks of size N in Python Input: [1, 2, 3, 4, 5,6, 7, 8, 9] Output: [[1,

```
# In[ ]:
```

```
l1=[1, 2, 3, 4, 5,6, 7, 8, 9,10,11]
n=4
l2=[]
for i in range(0,len(l1),4):
    l4=l1[i:i+n]
    l2.append(l4)

print(l2)
```

```
# In[ ]:
```

```
list = [10, 20, 30, 40,50]
l=sorted(list)
list2 = [4, 10, 15, 18, 20]
for i in l:
    if i in list2:
        list.remove(i)
        list2.remove(i)
print(list)
print(list2)
```

```
# In[ ]:
```

