

CSE-3041 Data Science Programming Lab
Assignment-2

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Exercise – 2

In a supermarket there are two sections S1 and S2. The sales details of item1 to itemnof section1 and item1 to itemp of section2 are maintained in a sorted order. Write a program to merge the elements of the two sorted lists to form the consolidated list.

```
L1=[]
n=int(input("Enter the no of items in stack 1:"))
for i in range(0,n):
    item=str(input("Enter the item:"))
    L1.append(item)
L1.sort()
print("The items in stack 1 :\n",L1)
L2=[]
x=int(input("Enter the no of items in stack 2 :"))
for i in range(0,x):
    item1=str(input("Enter the item:"))
    L2.append(item1)
L2.sort()
print("The items in stack 2:\n",L2)
L3=L1+L2
L3.sort()
print("The final item list:",L3)
```

```
Enter the no of items in stack 1:3
Enter the item:h
Enter the item:E
Enter the item:K
The items in stack 1 :
['E', 'K', 'h']
Enter the no of items in stack 2 :2
Enter the item:A
Enter the item:F
The items in stack 2:
['A', 'F']
The final item list: ['A', 'E', 'F', 'K', 'h']
```

Exercise – 3

Watson gives Sherlock an list of N numbers. Then he asks him to determine if there exists an element in the list such that the sum of the elements on its left

is equal to the sum of the elements on its right. If there are no elements to the left/right, then the sum is considered to be zero.

```
n=int(input("Enter Number of elements in the list"))
l=[]
for i in range(0,n):
    a=int(input("Enter Number"))
    l.append(a)
for j in range(0,n):
    suml=0
    sumr=0
    k=l[j]
    for x in range(0,j):
        suml+=l[x]
    for y in range(j+1,n):
        sumr+=l[y]
    if suml==sumr:
        print("Number = ",k)
```

```
Enter Number of elements in the list5
Enter Number1
Enter Number2
Enter Number5
Enter Number3
Enter Number0
Number = 5
```

Exercise – 4

Sunny and Johnny together have M dollars they want to spend on ice cream. The parlor offers N flavors, and they want to choose two flavors so that they end up spending the whole amount. You are given the cost of these flavors. The cost of the i th flavor is denoted by c_i . You have to display the indices of the two flavors whose sum is M.

```
m=int(input('Enter the money with you: \n'))    #accepting the price range for 2 icecreams

d=m/2      #dividing total price by 2 to find individual price range

print('Price range for individual ice cream: ')
print(d)

if d==10:

    print('Flavours Available for rs 10 today \n')
```

```

list1=['Chocolate','Vanilla']
print(list1[:])

elif d==20:
    print('Flavours Availble for rs 20 today \n')
    list2=['Strawbery','Butterscotch']
    print(list2[:])

elif d==30:
    print('Flavours Availble for rs 30 today \n')
    list3=['Oreo','Coffee']
    print(list3[:])

elif d==40:
    print('Flavours Availble for rs 40 today \n')
    list4=['Cookie Dough','Salted Caramel']
    print(list4[:])

elif d==50:
    print('Flavours Availble for rs 50 today \n')
    list5=['Avocado','Blueberry']
    print(list5[:])

elif d==60:
    print('Flavours Availble for rs 60 today \n')
    list6=['Peanut Butter','Cotton Candy']
    print(list6[:])

else:
    print('There is no flavour available for the price range')

```

```

❏ Enter the money with you:
50
Price range for individual ice cream:
25.0
There is no flavour available for the price range

```

Exercise – 5

Given a list of integer values, find the fraction of count of positive numbers, negativenumbers and zeroes to the total numbers. Print the value of the fractions correct to 3decimal places.

```

l=[1,5,-3,7,0,-2,-4,3,1,0,-8,7]
p=0
z=0

```

```

ne=0

m=len(l)
for i in range(0,m):
    n=l[i]
    if n>0:
        p+=1
    elif n==0:
        z+=1
    else:
        ne+=1

print("NUmber of Positive number : ")
print(format(p/m,".3f"))

print("\nNUmber of Negative number : ")
print(format(ne/m,".3f"))
print("\nNUmber of ZEROS's : ")
print(format(z/m,".3f"))

```

```

➞ NUmber of Positive number :
0.500

NUmber of Negative number :
0.083

NUmber of ZEROS's :
0.167

```

Exercise – 6

Given N integers, count the number of pairs of integers whose difference is K.

```

a=[]
n=int(input("Enter the number of integers: "))
k= int(input("\nEnter the Difference: "))

for i in range(n):
    a.append(i)

c= 0
for i in range(0,n):
    for j in range(i+1,n):
        if(a[i]-a[j] == k or a[j]-a[i]==k):
            c+=1

print("\n\nNumber of pairs whoose Differnce is ",k)
print("are: ",c)

```

```
Enter the number of integers: 5  
Enter the Difference: 2  
  
Number of pairs whose Difference is 2  
are: 3
```