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Звіт лабораторної роботи № 18  
з дисципліни “Технологія програмування захищених систем”

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1a

import random

mylist =[]

for i in range(10):

mylist.append(random.getrandbits(1))

print(mylist[i])

1b

import random

mylist =[]

for i in range(10):

mylist.append(random.randint(-10,10))

print(mylist[i])

1v

import random

mylist =[]

for i in range(10):

mylist.append(random.randint(0,50))

print(mylist[i])

1…

import random

mylist =[]

variable=int(input('Enter number of elements in array: '))

for i in range(variable):

mylist.append(random.randint(0,50))

print(mylist[i])

2

import random

mylist =[]

print('Innitial list', end=': ')

for i in range(10):

mylist.append(random.randint(-10,10))

print(mylist[i], end=' ')

print('\nReformed list', end=': ')

for i in range(10):

if mylist[i]<0:

print(str(mylist[i]\*\*2), end=' ')

else:

print(mylist[i], end=' ')

3

import random

mylist =[]

print('Innitial list', end=': ')

for i in range(10):

mylist.append(random.randint(-10,10))

print(mylist[i], end=' ')

for i in range(10):

if i>=1 and mylist[i]>mylist[i-1]:

for i in range(10):

if mylist[i]<0:

mylist[i]=1

print('\nReformed list', end=': ')

for i in range(10):

print(mylist[i], end=' ')

4

import random

mylist =[]

print('Innitial list', end=': ')

for i in range(10):

mylist.append(random.randint(-10,10))

print(mylist[i], end=' ')

mylist.sort()

mylist.reverse()

print('\nReformed list', end=': ')

for i in range(10):

print(mylist[i], end=' ')

5

import random

mylist =[]

print('Innitial list', end=': ')

for i in range(10):

mylist.append(random.randint(-10,10))

print(mylist[i], end=' ')

for i in range(10):

if i%2==0 and i!=10:

mylist[i]+=i/2

print('\nReformed list', end=': ')

for i in range(10):

print(int(mylist[i]), end=' ')

6

import random

mylist =[]

print('Innitial list', end=': ')

for i in range(3):

mylist.append(random.randint(-10,10))

print(mylist[i], end=' ')

old\_list = mylist.copy()

mylist.sort()

if old\_list == mylist:

print('\nThis is an increasing sequence of numbers')

elif old\_list == mylist.reverse():

print('\nThis is decreasing sequence of numbers')

else:

print('\nThis sequence of numbers is neither increasing nor decreasing')

7

?

?

8

import random

mylist =[]

flag=0

for i in range(4):

mylist.append(random.randint(-10,10))

print(mylist[i], end=' ')

if mylist[i]>=0:

flag=i

sum=0

for i in range(flag+1):

sum+=mylist[i]

print('Sum of elements from 0 to ',str(flag),': ',str(sum))

9

import random

mylist =[]

newlist =[]

for i in range(10):

mylist.append(random.randint(0,50))

print(mylist[i], end=' ')

if mylist[i]%2!=0 and mylist[i]!=0 :

newlist.append(mylist[i])

print('\n')

for i in range(len(newlist)):

print(newlist[i], end=' ')

10

import random

mylist =[]

max\_elem = 0

max\_elem\_index =-1

min\_elem = 10

min\_elem\_index =-1

for i in range(5):

mylist.append(random.randint(-10,10))

print(mylist[i], end=' ')

if mylist[i]>=0 and mylist[i]>=max\_elem:

max\_elem = mylist[i]

max\_elem\_index =i

if mylist[i]<=0 and (-mylist[i])>=max\_elem:

max\_elem = -mylist[i]

max\_elem\_index =i

if mylist[i]>=0 and mylist[i]<=min\_elem:

min\_elem = mylist[i]

min\_elem\_index =i

if mylist[i]<=0 and -mylist[i]<=min\_elem:

min\_elem = -mylist[i]

min\_elem\_index =i

print('\n\nmax ||: ',max\_elem, ', index: ', max\_elem\_index+1)

print('\nmin ||: ',min\_elem, ', index: ', min\_elem\_index+1)

product=1;

if max\_elem\_index - min\_elem\_index == 1 or min\_elem\_index - max\_elem\_index == 1:

print("product = 0")

elif max\_elem\_index>min\_elem\_index:

for i in range(5):

if i>min\_elem\_index and i<max\_elem\_index:

product\*=mylist[i]

print(mylist[i],',',i+1)

print('product: ',product)

elif max\_elem\_index<min\_elem\_index:

for i in range(5):

if i<min\_elem\_index and i>max\_elem\_index:

product\*=mylist[i]

print(mylist[i],',',i+1)

print('product: ',product)

11

import random

mylist =[]

i=0

flag=0

while i<22-flag:

mylist.append(random.randint(-10,10))

if mylist[i]==0:

mylist.remove(mylist[i])

flag+=1

i-=1

i+=1

while flag>0:

mylist.append(0)

flag-=1

print(mylist)

12

import random

mylist =[]

for i in range(10):

mylist.append(random.randint(-10,10))

print(mylist)

if 0 in mylist:

index\_of\_0 = mylist.index(0)

i=index\_of\_0

Sum=0

while i<10:

if mylist[i]>=0:

Sum+=mylist[i]

else:

Sum-=mylist[i]

i+=1

print('Sum: ',Sum)

else:

print('There is no \'0\' in the list')

13

import random

mylist =[]

index1=-1

index2=-1

for i in range(10):

mylist.append(random.randint(-10,10))

print(mylist)

for i in range(10):

if mylist[i]<0:

index1=i

break

for i in range(10):

if mylist[i]<0 and index1!=i:

index2=i

break

if index1!=-1 and index2!=-1 and index2-index1>=1:

Sum=0

for i in range(10):

if i>index1 and i<index2:

Sum+=mylist[i]

print('Sum of elements between ', index1+1,' and ', index2+1, ' is ', Sum)

else:

print('The task failed with current list')

14

import random

mylist =[]

for i in range(10):

mylist.append(random.randint(-10,10))

print(mylist)

lower\_endpoint=int(input('\nEnter the lower endpoint of the interval: '))

upper\_endpoint=int(input('Enter the upper endpoint of the interval: '))

change=int(input('Enter variable z: '))

for i in range(10):

if lower\_endpoint<=mylist[i] and mylist[i]<=upper\_endpoint:

variable=0

else:

mylist[i]=change

if change in mylist:

print('\nRenewed list: ',mylist)

else:

print('The task failed with current list')

15

import random

mylist =[]

for i in range(10):

mylist.append(random.randint(-10,10))

print(mylist)

Sum=0

lower\_endpoint=int(input('\nEnter the lower endpoint of the interval: '))

upper\_endpoint=int(input('Enter the upper endpoint of the interval: '))

for i in range(10):

if lower\_endpoint<=mylist[i] and mylist[i]<=upper\_endpoint:

Sum+=mylist[i]

print('Sum: ',Sum)

16

import random

list1 =[]

list2 =[]

minimum=10

for i in range(10):

list1.append(random.randint(-10,10))

list2.append(random.randint(-10,10))

print(' ',list1,'\n\n ',list2)

for i in range(10):

if list1[i] in list2:

variable='404'

else:

if list1[i]<minimum:

minimum=list1[i]

print(minimum)

17

import random

list1 =[]

list2=[]

i=0

variable=0

while i<10-variable:

list1.append(random.randint(-10,10))

if list1[i]>=0:

list2.append(list1[i])

del list1[i]

i-=1

variable+=1

i+=1

list1.extend(list2)

print(list1)

18

import random

list1=[]

list2=[]

list3=[]

i=0

while i<5:

list1.append(random.randint(-10,10))

list2.append(random.randint(-10,10))

list3.append(random.randint(-10,10))

i+=1

mylist=[list1,list2,list3]

Max=-10

Sum=0

for element in mylist:

print(element)

if element[2]>Max:

Max=element[2]

if mylist.index(element)==0:

for i in element:

if i%2!=0:

Sum+=i

print('Max in 3 column: ',Max)

print('Sum of odd numbers in 1 row: ',Sum)

19

import random

list1=[]

list2=[]

list3=[]

i=0

while i<5:

list1.append(random.randint(-10,10))

list2.append(random.randint(-10,10))

list3.append(random.randint(-10,10))

i+=1

mylist=[list1,list2,list3]

min\_sum=50

temporary\_min\_sum=0

index=-1

for element in mylist:

temporary\_min\_sum=0

print(element)

for i in element:

temporary\_min\_sum+=i

if temporary\_min\_sum<min\_sum:

min\_sum = temporary\_min\_sum

index = mylist.index(element)

print('\n Minimum sum in ',str(index+1),' row ',mylist[index],' :',min\_sum)

20

import random

list1=[]

list2=[]

list3=[]

result=[]

i=0

while i<5:

list1.append(random.randint(-10,10))

list2.append(random.randint(-10,10))

list3.append(random.randint(-10,10))

result.append(0)

i+=1

mylist=[list1,list2,list3]

for thislist in mylist:

print(' ',thislist)

for element in range(5):

result[element]+=thislist[element]

print('\nresulting list: ',result)

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import random

list1=[]

list2=[]

list3=[]

list4=[]

list5=[]

result=[]

i=0

while i<5:

list1.append(random.randint(-10,10))

list2.append(random.randint(-10,10))

list3.append(random.randint(-10,10))

list4.append(random.randint(-10,10))

list5.append(random.randint(-10,10))

result.append(0)

i+=1

mylist=[list1,list2,list3,list4,list5]

for thislist in mylist:

print('\n\n\n')

for element in thislist:

print(' ',element,end=' ')

if element>=0 and thislist.index(element)==4-mylist.index(thislist):

for elem in thislist:

#result[mylist.index(thislist)]+=elem

variable=result[mylist.index(thislist)]+elem

result[mylist.index(thislist)]=variable

print('\n\nresult: ',result)