#Meniu

cerinta = int(input(" Alege o proprietate: "))

if cerinta == 8:

print( "Se cauta secventa de lungime maximă cu proprietatea: au toate elementele in intervalul [0, 10] dat")

if cerinta == 10:

print("Se cauta secventa de lungime maximă cu proprietatea: p=1 sau diferentele (x[j+1] - x[j]) si (x[j+2] - x[j+1]) au semne contrare, pentru j=i..i+p-2.")

if cerinta == 9:

print("Se cauta secventa de lungime maximă cu proprietatea: p=1 sau in oricare trei elemente consecutive exista o valoarea care se repeta.

")

if (cerinta != 8 and cerinta != 10 and cerinta != 9):

print("Această proprietate nu este momentan verificata.")

if (cerinta == 8 or cerinta == 10 or cerinta==9):

sir = input("Scrie un șir de numere pentru care să se verifice proprietatea aleasă: ")

sir2 = sir.split()

lungime = len(sir)

n = len(sir2)

sir3 = []

sir4 = []

maxi= 0

x = int('0')

#cerinta 8

if (cerinta==8):

ok=0

i=0

l=0

maxi=0

while (ok==0 and i<n):

if( int(sir2[i])>=0 and int(sir2[i])<=10):

ok=1

l=1

sir3.append(sir2[i])

i=i+1

else:

i=i+1

if(ok == 0):

print("nu exista numar in sirul dat care sa verifice proprietatea ceruta")

else:

while(i<n):

if(int(sir2[i])>=0 and int(sir2[i])<=10):

sir3.append(sir2[i])

l=l+1

else:

if(l>maxi):

sir4 = sir3.copy()

sir3.clear()

maxi=l

l=0

i=i+1

if(l>maxi):

sir4.clear()

sir4 = sir3.copy()

sir3.clear()

print(sir4)

"""

teste

int: -1 -10 2 6 55

out: 2 6

int: 25 30 56

out: nu exista numar in sirul dat care sa verifice proprietatea ceruta

int: 250 66 8 9

out: 8 9

int: 1 5 26 87

out: 1 5

"""

#cerinta 10

maxi=0

l=0

sir3 = []

sir4 = []

if(cerinta==10):

for i in range (0,n-2):

if ((int(sir2[i+1])-int(sir2[i])<0) and ( int(sir2[i+2])-int(sir2[i+1])>=0) or (int(sir2[i+1])-int(sir2[i])>=0)and ( int(sir2[i+2])-int(sir2[i+1])<0)):

sir3.append(sir2[i])

l=l+1

else:

sir3.clear()

l=0

if l > maxi:

sir4.clear()

sir4 = sir3.copy()

maxi= l

if (maxi!=0): print(sir4)

else: print (sir2[0])

"""

testare

int:1 2 3 4 5 6 7

out:1

int:7 1 8 -10 3 1 0 5 2 13

out:7 1 8 -10

int:10 15 15 23 1 2 0 95662 12

out:15 23 1 2 0

"""

#cerinta 9

if(cerinta==9):

maxi=0

n = len(sir2)

for i in range(0, n - 2):

if (i == 0):

if ((sir2[i] == sir2[i + 1] or sir2[i] == sir2[i + 2]) or sir2[i + 1] == sir2[i + 2]):

sir3.append(sir2[i])

if (i == 1):

if(((sir2[i] == sir2[i + 1] or sir2[i] == sir2[i + 2]) or (sir2[i + 1] == sir2[i + 2] )) or (sir2[i] == sir2[i-1])):

sir3.append(sir2[i])

if (i != 1 and i != 0):

if (((sir2[i] == sir2[i + 1] or sir2[i] == sir2[i + 2]) or (sir2[i + 1] == sir2[i + 2] or sir2[i - 1] == sir2[i - 2])) or (sir2[i] == sir2[i-1])):

sir3.append(sir2[i])

else:

sir3.clear()

if (i == (n - 3)):

if (((sir2[i+1] == sir2[i + 2]) or sir2[i+1] == sir2[i]) or (sir2[i+2] == sir2[i]) or sir2[i] == sir2[i-1]):

sir3.append(sir2[i+1])

if (((sir2[i + 2] == sir2[i + 1]) or sir2[i + 2] == sir2[i]) or sir2[i + 1] == sir2[i]):

sir3.append(sir2[i+2])

if (len(sir3) > maxi):

sir4.clear()

sir4 = sir3.copy()

maxi = len(sir3)

if(maxi!=0):

print(sir4)

else:

print(sir2[0])

"""

testare

int: 2 2 3 3 4 4 5 5 6 6 7 7

out: 2 2 3 3 4 4 5 5 6 6 7 7

int:2 -6 7 -6 5 5 2 1

out:-6 5 5 2

int:188 8 32 23 5435 2314132 234 21 9842 90232 57

out: 188

int: 0 0 3 0 2 0 3 3 0 3 2 2 1

out: 0 3 3 0 3 2 2 1

"""