Q1

l=[]

def trav(n):

for i in n:

print(i)

def inso (l,n):

#l=l.sort()

l.append(n)

c=len(l)-1

while (l[c-1]>=l[c] and c>=0):

t=l[c]

l[c]=l[c-1]

l[c-1]=t

c-=1

print(l)

return(l)

def biser(l,n):

mi=0

ma=len(l)

mid=(mi+ma)//2

pos=0

while(mi<ma):

if (n==l[mid]):

pos=mid

return(l[pos])

elif(n<l[mid]):

ma=mid-1

elif(n>l[mid]):

mi=mid+1

mid=(mi+ma)//2

if pos!=0:

print('found')

else:

print('Not Found')

def inso (l,n):

#l=l.sort()global l

l.append(n)

c=len(l)-1

while (l[c-1]>l[c]):

t=l[c]

l[c]=l[c-1]

l[c-1]=t

c-=1

print(l)

return(l)

def dele(l,n):

c=len(l)

pos=0

while (n>l[c]):

pos=c

c-=1

l[pos]=n

return(l)

def lsor(a,b):

na=len(a)

nb=len(b)

c=[]

while (na>=0 and nb>=0):

if a[na]>b[nb]:

c.append(a[na])

na-=1

elif b[nb]>a[na]:

c.append(b[nb])

nb-=1

elif b[nb]==a[na]:

c.append(a[na])

c.append(b[nb])

nb-=1

na-=1

while (na>=0):

c.append(a[na])

na-=1

while (nb>=0):

c.append(b[nb])

nb-=1

return(c)

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

a=inso(l,3)

print(a)

'''

Q2

import q1

import datetime

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

#binary search

t1=datetime.datetime.now()

a=q1.biser(l,7)

t2=datetime.datetime.now()

bintime=t2-t1

#linear search

tl1=datetime.datetime.now()

a=0

n=7

flag=0

while a<len(l):

if l[a]==n:

flag=1

break

a+=1

tl2=datetime.datetime.now()

letime=tl2-tl1

print("time to find 7 in ",l,'using binary search',bintime)

print("time to find 7 in ",l,'using linear search',letime)

Q3

import q1

l=[1,2,3,4,5,6,7,8,9,10,11,12]

a=int(input("Enter a Number:"))

if(a in l):

print("Element already exists")

else:

q1.inso(l,a)

#print(l)

"""

Enter a Number:15

[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15]

"""

Q4

#L=[[1,2,3,4],[5,6,7,8]]

L=eval(input("Enter a List of Lists : "))

x=len(L[0])

y=len(L)

L1=[[row[i] for row in L] for i in range(len(L[0]))]

#L1=[L[j][i] for i in range (x) for j in range(y)]

print(L)

print(L1)

"""

Enter a List of Lists : [[1,2,3,4],[5,6,7,8],[9,10,11,12],[13,14,15,16],[17,18,19,20]]

[[1, 2, 3, 4], [5, 6, 7, 8], [9, 10, 11, 12], [13, 14, 15, 16], [17, 18, 19, 20]]

[[1, 5, 9, 13, 17], [2, 6, 10, 14, 18], [3, 7, 11, 15, 19], [4, 8, 12, 16, 20]]

"""Q5

l=["http://www.dasfk.com","www.try.com","www.google.com"]

ln=[(i if i[0:7]=="http://" else ("http://"+i)) for i in l]#"""if i[0:6]=="https://" i else "https://"+i """

print (ln)

"""

['http://www.dasfk.com', 'http://www.try.com', 'http://www.google.com']

"""