import numpy as np

n=int(input("enter dimensions for square matrix\n"))

matrix=np.random.random((n,n))

print(matrix)

#print(matrix[1,2])

'''for i in range(n):

for j in range(n):

print(matrix[i,j],i,j)'''

l=[]

top,left,bottom,right=0,0,n-1,n-1

cnt=0

while top<=bottom and left<=right:

for i in range(left,right+1):

l.append(matrix[top,i])

cnt+=1

top+=1

for i in range(top,bottom+1):

l.append(matrix[i,right])

cnt+=1

right-=1

#row=1,col=1

for i in range(right,left-1,-1):

l.append(matrix[bottom,i])

cnt+=1

bottom-=1

for i in range(bottom,top-1,-1):

l.append(matrix[i,left])

cnt+=1

left+=1

print(l)