Problem set 4

GONA AJAY KUMAR

AP21110011238

CSE N

import numpy as np

def create(matrix,c,d,r,p):

def find():

for i in range(3):

for j in range(3):

if(matrix[i][j]==0):

c=i

d=j

return c,d

def left(matrix,c,d):

if d > 0:

print(r)

print("left")

matrix1=np.copy(matrix)

temp1=matrix1[c][d-1]

matrix1[c][d-1]=matrix1[c][d]

matrix1[c][d]=temp1

c,d=find()

print(matrix1)

create(matrix1,c,d,r+1,p)

def right(matrix,c,d):

if d < 2 :

print(r)

print("right")

matrix1=np.copy(matrix)

temp1=matrix1[c][d+1]

matrix1[c][d+1]=matrix1[c][d]

matrix1[c][d]=temp1

c,d=find()

print(matrix1)

create(matrix1,c,d,r+1,p)

def up(matrix,c,d):

if c > 0:

print(r)

print('up')

matrix1=np.copy(matrix)

temp1=matrix[c-1][d]

matrix1[c-1][d]=matrix[c][d]

matrix1[c][d]=temp1

c,d=find()

print(matrix1)

create(matrix1,c,d,r+1,p)

def down(matrix,c,d):

if c < 2:

print(r)

print('down')

matrix1=np.copy(matrix)

temp1=matrix1[c+1][d]

matrix1[c+1][d]=matrix1[c][d]

matrix1[c][d]=temp1

c,d=find()

print(matrix1)

create(matrix1,c,d,r+1,p)

if r>p:

return 0

c,d=find()

left(matrix,c,d)

right(matrix,c,d)

up(matrix,c,d)

down(matrix,c,d)

Rows = int(input("Give the number of rows:"))

Columns = int(input("Give the number of columns:"))

matrix = [[int(input()) for c in range (Columns)] for r in range(Rows)]

print(matrix)

c=0

d=0

r=0

p=int(input())

create(np.array(matrix),c,d,r+1,p)