# -\*- coding: utf-8 -\*-

"""

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@author: miran

"""

"""Desarrolle un código que gire la imagen a la derecha o a la izquierda, que

refleje la fcin respecto al eje-y o el eje-x, e invertir el color de la imagen.

"""

import numpy as np

a = np.array([[1,1,1,1,1,1,0,1,1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,1,1],

[1,1,1,1,1,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,1,1,1,1,1,1,1,1,1],

[1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,1,1,1,1,1,1,1,1,1],

[1,1,1,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,1,1,1,1,1,1,1,1,1],

[1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,1,1,1,1,1,1,1,1],

[1,1,1,1,1,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1],

[1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1],

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[1,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,0,0,0,1,1,1,0,0,1,1,1,1],

[1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,1,1,0,0,1,1,1],

[1,1,1,1,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,1,1,1,0,1,1,1],

[1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,0,1,1],

[1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,0,0,1,0,0,1],

[1,1,1,1,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,0,0,0,1,1,1,0,1,1,1,0,0,0,1,0,1],

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[1,1,1,1,1,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,1,1,1,1,0,0,0,0,0,0,1,1,0,1,1],

[1,1,1,1,1,1,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,1,1,1],

[1,1,1,1,1,1,1,0,0,1,1,1,1,1,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,1,0,0,1,1,1],

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[1,1,1,1,1,1,1,1,1,1,0,0,0,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1],

[1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,1,1,0,1,1,0,0,0,0,0,1,1,1,1,1,1,1,1],

[1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1,1,1,1,1]], int)

#Know how many dimentions the array has

print(a.ndim)

print(a.shape)

#Function to change color

def change\_color(m):

#Copies matrix into a new one

copy = np.copy(m)

#Loop through the matrix

for x in range(0,len(copy)):

for y in range(0,len(copy)):

#If an element in the list/array/matrix has a 1 in it, then change it to 0

if copy[x][y] == 1:

copy[x][y] = 0

#Or change it to a 1

else:

copy[x][y] = 1

return copy

#Rotate to the left

def rotateLeft(m):

b = np.rot90(m)

return b

#Rotate to Right

def rotateRight(m):

#It must rotate to the left 3 times in order to theorically rotate right

b = np.rot90(m, 3)

return b

#Reflect in y axis

def reflectInY(m):

b = np.flip(m)

return b

while True:

u = int(input("Do you want to rotate to left? 0, rotate to right? 1, reflect in y? 2, change colors? 3 or nothing 4:\n"))

if u == 4:

break

elif u == 3:

print(change\_color(a))

elif u == 2:

print(reflectInY(a))

elif u == 1:

print(rotateRight(a))

elif u == 0:

print(rotateLeft(a))

else:

print("Invalid value")