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import pygame

from random import randint

from copy import deepcopy

size = (700, 700)

FPS = 25

width = height = 20

n = size[1] // width

pygame.init()

screen = pygame.display.set_mode(size)

pygame.display.set_caption("Game of Life")

clock = pygame.time.Clock()

next_status = [[0 for i in range(n)] for i in range(n)]

current_status = [[randint(0,1) for i in range(n)] for i in range(n)]

def check_cell(current_status, x, y):

    count = 0

    for j in range(y - 1, y + 2):

        for i in range(x - 1, x + 2):

            if current_status[j][i] == 1:

                count +=1

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

        count -= 1

    if count == 2 or count == 3:

        return 1
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    return 0

else:

    if count == 3:

        return 1

    return 0

count = 1

cycle= []

running = True

while running:

    screen.fill(pygame.Color('black'))

    for event in pygame.event.get():

        if event.type == pygame.QUIT:

            exit()

    for i in range(n):

        pygame.draw.line(screen, pygame.Color('white'), (0, (i+1)*width), (700, (i+1)*width))

        pygame.draw.line(screen, pygame.Color('white'), ((i+1)*height, 0), ((i+1)*width, 700))

    for x in range(1, n - 1):

        for y in range(1, n - 1):

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

                pygame.draw.rect(screen, pygame.Color('pink'), (x*height+2, y*height+2, height-2, height-2))

                next_status[y][x] = check_cell(current_status, x, y)

    current_status = deepcopy(next_status)

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if (count%2) == 0:  
    if current_status == cycle:  
        print("GAME OVER")  
        running = False
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if (count%2) == 0:  
    cycle = current_status  
count += 1
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pygame.display.flip()  
clock.tick(FPS)
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