import pygame

import sys

# Initialize Pygame

pygame.init()

# Constants

WIDTH, HEIGHT = 400, 600

BIRD\_WIDTH, BIRD\_HEIGHT = 50, 50

PIPE\_WIDTH, PIPE\_HEIGHT = 100, 300

PIPE\_SPACING = 200

BIRD\_SPEED = 5

# Colors

WHITE = (255, 255, 255)

GREEN = (0, 255, 0)

# Create the game window

screen = pygame.display.set\_mode((WIDTH, HEIGHT))

pygame.display.set\_caption("Flappy Bird")

# Bird

bird = pygame.Rect(WIDTH // 2 - BIRD\_WIDTH // 2, HEIGHT // 2 - BIRD\_HEIGHT // 2, BIRD\_WIDTH, BIRD\_HEIGHT)

# Pipes

pipes = [pygame.Rect(WIDTH, 0, PIPE\_WIDTH, PIPE\_HEIGHT)]

# Game variables

gravity = 0.5

bird\_movement = 0

game\_over = False

# Game loop

while not game\_over:

for event in pygame.event.get():

if event.type == pygame.QUIT:

pygame.quit()

sys.exit()

if event.type == pygame.KEYDOWN:

if event.key == pygame.K\_SPACE:

bird\_movement = -10

# Bird movement

bird\_movement += gravity

bird.y += bird\_movement

# Update pipes

for pipe in pipes:

pipe.x -= BIRD\_SPEED

# Add new pipes

if pipes[-1].x <= WIDTH - PIPE\_SPACING:

new\_pipe = pygame.Rect(WIDTH, 0, PIPE\_WIDTH, PIPE\_HEIGHT)

pipes.append(new\_pipe)

# Remove off-screen pipes

if pipes[0].x + PIPE\_WIDTH < 0:

pipes.pop(0)

# Collision detection

for pipe in pipes:

if bird.colliderect(pipe):

game\_over = True

# Draw everything

screen.fill(WHITE)

for pipe in pipes:

pygame.draw.rect(screen, GREEN, pipe)

pygame.draw.rect(screen, GREEN, bird)

pygame.display.update()

# Clean up

pygame.quit()

sys.exit()