import pygame

import sys

# Initialize Pygame

pygame.init()

# Constants

WIDTH, HEIGHT = 800, 600

WHITE = (255, 255, 255)

BLACK = (0, 0, 0)

# Set up the display window

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

pygame.display.set\_caption("Bresenham's Line Algorithm")

# Bresenham's line drawing algorithm

def draw\_line\_bresenham(x0, y0, x1, y1):

dx = abs(x1 - x0)

dy = abs(y1 - y0)

steep = dy > dx

if steep:

x0, y0 = y0, x0

x1, y1 = y1, x1

swapped = False

if x0 > x1:

x0, x1 = x1, x0

y0, y1 = y1, y0

swapped = True

dx = x1 - x0

dy = y1 - y0

error = int(dx / 2.0)

ystep = 1 if y0 < y1 else -1

y = y0

points = []

for x in range(x0, x1 + 1):

coord = (y, x) if steep else (x, y)

points.append(coord)

error -= abs(dy)

if error < 0:

y += ystep

error += dx

if swapped:

points.reverse()

return points

# Main loop

def main():

start\_point1 = (0,0)

end\_point1 = (800, 600)

start\_point2 =( 0, 600)

end\_point2 = (800, 0)

running = True

while running:

for event in pygame.event.get():

if event.type == pygame.QUIT:

pygame.quit()

sys.exit()

screen.fill(WHITE)

# Draw the line using Bresenham's algorithm

line\_points = draw\_line\_bresenham(\*start\_point1, \*end\_point1)

line\_points1=draw\_line\_bresenham(\*start\_point2,\*end\_point2)

for point in line\_points:

pygame.draw.circle(screen, BLACK, point, 1)

for point in line\_points1:

pygame.draw.circle(screen, BLACK, point, 1)

pygame.display.flip()

pygame.quit()

if \_\_name\_\_ == "\_\_main\_\_":

main()

