Chaos Python:

Import necessary libraries and modules

Define class Point
    Initialize Point with coordinates x and y
    Define getters and setters for x and y
    Define method to calculate distance between two points
    Define method to calculate midpoint between two points
    Define string representation method for Point

Define class ChaosGame inheriting from Canvas
    Initialize ChaosGame with master
        Call parent Canvas constructor with white background
        Pack the canvas to fill and expand
    Define method plotPoints to plot points
        Initialize starting point (x0, y0) to the center of canvas
        For n iterations
            Select a random base point
            Update direction to selected base point
            Calculate new x0 and y0 as midpoint between direction and current (x0, y0)
            Plot the point
    Define method plot to create an oval at given coordinates
    Define method Vert to plot vertices of a triangle
        Plot vertices using plotVert method
    Define method plotVert to create an oval at given coordinates

Define constants
    WIDTH = 600
    HEIGHT = 520
    V_COLOR = "black"
    M_COLOR = "orange"
    POINT_RADIUS = 3
    NUM_POINTS = 50000
    MIN_X = 4
    MIN_Y = 4
    MAX_X = 590
    MAX_Y = 510
    MID_X = (MIN_X + MAX_X) / 2
    MID_Y = (MIN_Y + MAX_Y) / 2

Define vertices of the triangle
    V1 = (MID_X, MIN_Y)
    V2 = (MAX_X, MAX_Y)

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    V3 = (MIN_X, MAX_Y)
    base = (V1, V2, V3)

Create a Tkinter window
    Set window geometry to WIDTH and HEIGHT
    Set window title

Create an instance of ChaosGame
    Plot points using plotPoints method
    Plot vertices using Vert method

Start Tkinter main loop
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