

fractals.py

```
137 class KochSnowflake(Scene):
138     def construct(self):
139         l1 = Line(LEFT*3, RIGHT*3)
140         l1.shift(DOWN*2)
141         l2 = l1.copy().rotate(PI/3, about_point = l1.get_start())
142         l3 = l1.copy().rotate(-PI/3, about_point = l1.get_end())
143         l1 = Line(start = l1.get_end(), end = l1.get_start())
144
145         n = 4
146         t = 0.01
147
148         #g1 not needed as we dont retain the old configuration
149         g2 = VGroup(l1, l2, l3)
150
151         self.play(Write(l1), Write(l2), Write(l3))
152
153         for i in range(n):
154             g3 = VGroup()
155             for mob in g2:
156
157                 seg1 = mob.copy().scale(1/3)
158                 seg2 = mob.copy().scale(1/3)
159                 direction = mob.get_end()- mob.get_start()
160
161                 third1 = Line(start = mob.get_start(), end = mob.get_start()+ direction/3)
162                 third2 = Line(start = mob.get_end()- direction/3, end = mob.get_end() )
163                 #self.play(Write(third1), Write(third2))
164                 self.remove(mob)
165
166                 seg1.rotate(PI/3, about_point = seg1.get_start())
167                 seg2.rotate(-PI/3, about_point = seg2.get_end())
168                 #self.play(Write(seg1), Write(seg2), run_time = t)
169
170
171                 g3.add(third1, seg1, seg2, third2)
172
173             #self.wait(0.5)
174             self.play(Write(g3, color = RED))
175             self.wait(1)
176             self.remove(g2)
177             g2 = g3
```