```
from turtle import *
from random import *
from math import *

def tree(n,1)
    pd()
    t = cos(radians(heading()+45))/8+0.25
    pencolor(t,t,t)
    pensize(n/4)
    forward(l)
    if n>0:
        b = random()*15+10
        c = random()*15+10
        d = l*(random()*0.35+0.6)
        right(b)
        tree(n-1,d)
        left(b+c)
        tree(n-1,d)
        right(c)
    else:
        right(90)
        n = cos(radians(heading()-45))/4+0.5
        pencolor(n,n,n)
        circle(2)
        left(90)
    pu()
    backward(l)

begcolor(0.5,0.5,0.5)
ht()
speed(0)
tracer(0,0)
left(90)
pu()
backward(300)
tree(13,100)
done()
```