import turtle as T  
import random  
import time  
  
# 画樱花的躯干(60,t)  
def Tree1(branch, t):  
 time.sleep(0.0005)  
 if branch > 3:  
 if 8 <= branch <= 12:  
 if random.randint(0, 2) == 0:  
 t.color('snow')   
 else:  
 t.color('lightcoral')   
 t.pensize(branch / 3)  
 elif branch < 8:  
 if random.randint(0, 1) == 0:  
 t.color('snow')  
 else:  
 t.color('mistyrose')   
 t.pensize(branch / 2)  
 else:  
 t.color('sienna')   
 t.pensize(branch / 10)   
 t.forward(branch)  
 a = 1.5 \* random.random()  
 t.right(20 \* a)  
 b = 1.5 \* random.random()  
 Tree1(branch - 10 \* b, t)  
 t.left(40 \* a)  
 Tree1(branch - 10 \* b, t)  
 t.right(20 \* a)  
 t.up()  
 t.backward(branch)  
 t.down()  
  
  
# 掉落的花瓣  
def Petal1(m, t):  
 for i in range(m):  
 a = 200 - 400 \* random.random()  
 b = 10 - 20 \* random.random()  
 t.up()  
 t.forward(b)  
 t.left(90)  
 t.forward(a)  
 t.down()  
 t.color('lightcoral')   
 t.circle(1)  
 t.up()  
 t.backward(a)  
 t.right(90)  
 t.backward(b)  
  
# 绘图区域  
t = T.Turtle()  
# 画布大小  
w = T.Screen()  
t.hideturtle() # 隐藏画笔  
t.getscreen().tracer(200, 0)  
w.screensize(200,200,bg='wheat')  
t.left(90)  
t.up()  
t.backward(300)  
t.down()  
t.color('sienna')  
  
# 画樱花的躯干  
random.seed(7)  
Tree1(60, t)  
#画燕子  
import turtle  
turtle.penup()  
turtle.goto(-460,160)  
turtle.pendown()  
turtle.begin\_fill()  
turtle.pensize(3)  
turtle.circle(30,-30)  
turtle.circle(30,240)  
turtle.penup()  
turtle.goto(-490,190)  
turtle.pendown()  
turtle.seth(0)  
turtle.circle(18,150)  
turtle.seth(125)  
turtle.circle(100,60)  
turtle.penup()  
turtle.goto(-490,190)  
turtle.pendown()  
turtle.seth(0)  
turtle.circle(-18,160)  
turtle.seth(-125)  
turtle.circle(-100,40)  
turtle.seth(0)  
turtle.circle(25,150)  
turtle.seth(170)  
turtle.fd(100)  
turtle.seth(0)  
turtle.fd(80)  
turtle.seth(165)  
turtle.fd(80)  
turtle.seth(0)  
turtle.fd(80)  
turtle.circle(25,150)  
turtle.fd(40)  
turtle.color('black')  
turtle.end\_fill()  
turtle.penup()  
turtle.goto(-445,185)  
turtle.seth(0)  
turtle.pendown()  
turtle.begin\_fill()  
turtle.circle(8,360)  
turtle.color('white')  
turtle.end\_fill()  
turtle.color('black')  
turtle.pensize(6)  
turtle.penup()  
turtle.goto(-443,189)  
turtle.pendown()  
turtle.circle(2.5,360)  
turtle.penup()  
turtle.goto(-430,190)  
turtle.pensize(4)  
turtle.pendown()  
turtle.seth(10)  
turtle.fd(10)  
turtle.seth(160)  
turtle.fd(10)  
  
# 掉落的花瓣  
random.seed(7)  
Petal1(200, t)  
  
# 画樱花的躯干(60,t)  
def Tree2(branch, t):  
 time.sleep(0.0005)  
 if branch > 3:  
 if 8 <= branch <= 12:  
 if random.randint(0, 2) == 0:  
 t.color('limegreen')   
 else:  
 t.color('green')   
 t.pensize(branch / 3)  
 elif branch < 8:  
 if random.randint(0, 1) == 0:  
 t.color('seagreen')  
 else:  
 t.color('green')   
 t.pensize(branch / 2)  
 else:  
 t.color('sienna')   
 t.pensize(branch / 10)   
 t.forward(branch)  
 a = 1.5 \* random.random()  
 t.right(20 \* a)  
 b = 1.5 \* random.random()  
 Tree2(branch - 10 \* b, t)  
 t.left(40 \* a)  
 Tree2(branch - 10 \* b, t)  
 t.right(20 \* a)  
 t.up()  
 t.backward(branch)  
 t.down()  
  
# 掉落的花瓣  
def Petal2(m, t):  
 for i in range(m):  
 a = 200 - 400 \* random.random()  
 b = 10 - 20 \* random.random()  
 t.up()  
 t.forward(b)  
 t.left(90)  
 t.forward(a)  
 t.down()  
 t.color('wheat')   
 t.circle(1)  
 t.up()  
 t.backward(a)  
 t.right(90)  
 t.backward(b)  
  
  
#青蛙  
def frog():  
 t.pencolor('Green')  
 t.pensize(2)  
 t.penup()  
 t.goto(200,-250)  
 t.pendown()  
 t.seth(90)  
 t.begin\_fill()  
 t.circle(10, 360)  
 t.color('White')  
 t.end\_fill()  
 t.color('Green')  
 t.penup()  
 t.seth(180)  
 t.forward(10)  
 t.pensize(5)  
 t.pendown()  
 t.seth(180)  
 t.color('Black')  
 t.forward(1)  
 t.penup()  
 t.color('Green')  
 t.pensize(2)  
 t.seth(0)  
 t.forward(11)  
 t.pendown()  
 t.forward(10)  
 t.seth(90)  
 t.begin\_fill()  
 t.circle(-10, 360)  
 t.color('White')  
 t.end\_fill()  
 t.color('Green')  
 t.penup()  
 t.seth(0)  
 t.forward(10)  
 t.pensize(5)  
 t.pendown()  
 t.color('Black')  
 t.forward(1)  
 t.color('Green')  
 t.penup()  
 t.backward(1)  
 t.seth(-60)  
 t.forward(10)  
 t.pensize(2)  
 t.pendown()  
 t.seth(-90)  
 t.color('Green')  
 t.circle(-20,180)  
 t.seth(-90)  
 t.circle(20, 45)  
 t.seth(-135)  
 t.forward(20)  
 t.seth(-90)  
 t.forward(25)  
 t.backward(5)  
 for i in [-45,-135]:  
 t.seth(i)  
 t.forward(5)  
 t.backward(5)  
 t.seth(90)  
 t.forward(20)  
 t.seth(45)  
 t.forward(20)  
 t.seth(-135)  
 t.circle(20,270)  
 t.seth(-45)  
 t.forward(20)  
 t.seth(-90)  
 t.forward(25)  
 t.backward(5)  
 for i in [-45, -135]:  
 t.seth(i)  
 t.forward(5)  
 t.backward(5)  
 t.seth(90)  
 t.forward(20)  
 t.seth(135)  
 t.forward(20)  
 t.seth(-45)  
 t.penup()  
 t.circle(-20,90)  
 t.pendown()  
 t.seth(25)  
 t.pensize(3)  
 t.forward(30)  
 t.seth(-125)  
 t.forward(30)  
 t.seth(55)  
 t.forward(30)  
 t.seth(-155)  
 t.forward(30)  
 t.seth(-135)  
 t.circle(-20,90)  
 t.seth(155)  
 t.forward(30)  
 t.seth(-55)  
 t.forward(30)  
 t.penup()  
 t.goto(0,-300)  
 t.seth(90)  
  
  
#青蛙消失  
def frog\_disappear():  
 t.pencolor('wheat')  
 t.pensize(2)  
 t.penup()  
 t.goto(200,-250)  
 t.pendown()  
 t.seth(90)  
 t.begin\_fill()  
 t.circle(10, 360)  
 t.color('wheat')  
 t.end\_fill()  
 t.color('wheat')  
 t.penup()  
 t.seth(180)  
 t.forward(10)  
 t.pensize(5)  
 t.pendown()  
 t.seth(180)  
 t.color('wheat')  
 t.forward(1)  
 t.penup()  
 t.color('wheat')  
 t.pensize(2)  
 t.seth(0)  
 t.forward(11)  
 t.pendown()  
 t.forward(10)  
 t.seth(90)  
 t.begin\_fill()  
 t.circle(-10, 360)  
 t.color('wheat')  
 t.end\_fill()  
 t.color('wheat')  
 t.penup()  
 t.seth(0)  
 t.forward(10)  
 t.pensize(5)  
 t.pendown()  
 t.color('wheat')  
 t.forward(1)  
 t.color('wheat')  
 t.penup()  
 t.backward(1)  
 t.seth(-60)  
 t.forward(10)  
 t.pensize(2)  
 t.pendown()  
 t.seth(-90)  
 t.color('wheat')  
 t.circle(-20,180)  
 t.seth(-90)  
 t.circle(20, 45)  
 t.seth(-135)  
 t.forward(20)  
 t.seth(-90)  
 t.forward(25)  
 t.backward(5)  
 for i in [-45,-135]:  
 t.seth(i)  
 t.forward(5)  
 t.backward(5)  
 t.seth(90)  
 t.forward(20)  
 t.seth(45)  
 t.forward(20)  
 t.seth(-135)  
 t.circle(20,270)  
 t.seth(-45)  
 t.forward(20)  
 t.seth(-90)  
 t.forward(25)  
 t.backward(5)  
 for i in [-45, -135]:  
 t.seth(i)  
 t.forward(5)  
 t.backward(5)  
 t.seth(90)  
 t.forward(20)  
 t.seth(135)  
 t.forward(20)  
 t.seth(-45)  
 t.penup()  
 t.circle(-20,90)  
 t.pendown()  
 t.seth(25)  
 t.pensize(3)  
 t.forward(30)  
 t.seth(-125)  
 t.forward(30)  
 t.seth(55)  
 t.forward(30)  
 t.seth(-155)  
 t.forward(30)  
 t.seth(-135)  
 t.circle(-20,90)  
 t.seth(155)  
 t.forward(30)  
 t.seth(-55)  
 t.forward(30)  
 t.penup()  
 t.goto(0,-300)  
 t.seth(90)  
  
  
random.seed(7)  
Petal2(200, t)  
frog()  
#燕子消失  
turtle.hideturtle()  
t.penup()  
t.pencolor('wheat')  
t.goto(-600,160)  
t.seth(0)  
t.pensize(250)  
t.pendown()  
t.fd(240)  
t.penup()  
t.pensize(2)  
t.goto(0,-300)  
t.pendown()  
t.seth(90)  
random.seed(7)  
Tree2(60, t)  
frog\_disappear()  
  
  
# 画樱花的躯干(60,t)  
def Tree3(branch, t):  
 time.sleep(0.0005)  
 if branch > 3:  
 if 8 <= branch <= 12:  
 if random.randint(0, 2) == 0:  
 t.color('orange')   
 else:  
 t.color('darkorange')   
 t.pensize(branch / 3)  
 elif branch < 8:  
 if random.randint(0, 1) == 0:  
 t.color('darkorange')  
 else:  
 t.color('darkorange')   
 t.pensize(branch / 2)  
 else:  
 t.color('sienna')   
 t.pensize(branch / 10)   
 t.forward(branch)  
 a = 1.5 \* random.random()  
 t.right(20 \* a)  
 b = 1.5 \* random.random()  
 Tree3(branch - 10 \* b, t)  
 t.left(40 \* a)  
 Tree3(branch - 10 \* b, t)  
 t.right(20 \* a)  
 t.up()  
 t.backward(branch)  
 t.down()  
  
  
# 掉落的花瓣  
def Petal3(m, t):  
 for i in range(m):  
 a = 200 - 400 \* random.random()  
 b = 10 - 20 \* random.random()  
 t.up()  
 t.forward(b)  
 t.left(90)  
 t.forward(a)  
 t.down()  
 t.color('darkorange')   
 t.circle(1)  
 t.up()  
 t.backward(a)  
 t.right(90)  
 t.backward(b)  
# 草堆  
  
  
turtle.penup()  
turtle.goto(300, -130)  
turtle.seth(0)  
turtle.pendown()  
turtle.width(7)  
turtle.pencolor('orange')  
turtle.begin\_fill()  
turtle.color("orange")  
for i in range(4):  
 turtle.pendown()  
 turtle.fd(60)  
 turtle.circle(10, 90)  
turtle.fd(60)  
turtle.penup()  
turtle.fd(30)  
for i in range(4):  
 turtle.pendown()  
 turtle.fd(60)  
 turtle.circle(10, 90)  
turtle.fd(60)  
turtle.penup()  
turtle.fd(30)  
for i in range(4):  
 turtle.pendown()  
 turtle.fd(60)  
 turtle.circle(10, 90)  
turtle.penup()  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.pendown()  
turtle.fd(110)  
turtle.circle(10, 45)  
turtle.fd(60)  
turtle.circle(10, 90)  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.fd(110)  
turtle.penup()  
turtle.circle(0, 135)  
turtle.fd(68)  
turtle.circle(9, 45)  
turtle.pendown()  
turtle.fd(110)  
  
turtle.penup()  
turtle.goto(300, -130)  
turtle.seth(0)  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.fd(110)  
turtle.circle(10, 45)  
turtle.fd(60)  
turtle.pendown()  
turtle.circle(10, 90)  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.fd(110)  
turtle.penup()  
turtle.circle(0, 135)  
turtle.fd(68)  
turtle.circle(9, 45)  
turtle.pendown()  
turtle.fd(110)  
  
turtle.penup()  
turtle.goto(380, -130)  
turtle.seth(0)  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.fd(110)  
turtle.circle(10, 45)  
turtle.fd(60)  
turtle.pendown()  
turtle.circle(10, 90)  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.fd(110)  
turtle.penup()  
turtle.circle(0, 135)  
turtle.fd(70)  
turtle.circle(9, 45)  
turtle.pendown()  
turtle.fd(110)  
turtle.end\_fill()  
turtle.goto(300, -130)  
  
turtle.width(10)  
turtle.pencolor('chocolate')  
turtle.penup()  
turtle.goto(328, -25)  
turtle.seth(0)  
turtle.pendown()  
turtle.fd(56)  
turtle.penup()  
turtle.fd(20)  
turtle.pendown()  
turtle.fd(58)  
turtle.penup()  
turtle.fd(17)  
turtle.pendown()  
turtle.fd(8)  
turtle.penup()  
turtle.fd(15)  
turtle.pendown()  
turtle.fd(58)  
turtle.penup()  
turtle.fd(7)  
turtle.pendown()  
turtle.seth(-90)  
turtle.fd(67)  
  
turtle.penup()  
turtle.goto(356, 0)  
turtle.seth(0)  
turtle.pendown()  
turtle.fd(56)  
turtle.penup()  
turtle.fd(20)  
turtle.pendown()  
turtle.fd(58)  
turtle.penup()  
turtle.fd(17)  
turtle.pendown()  
turtle.fd(6)  
turtle.penup()  
turtle.fd(15)  
turtle.pendown()  
turtle.fd(58)  
turtle.penup()  
turtle.fd(7)  
turtle.pendown()  
turtle.seth(-90)  
turtle.fd(66)  
  
  
# 画樱花的躯干  
random.seed(7)  
Tree3(60, t)  
# 掉落的花瓣  
random.seed(7)  
Petal3(200, t)  
  
#草堆消失  
turtle.hideturtle()  
turtle.penup()  
turtle.goto(300, -130)  
turtle.seth(0)  
turtle.pendown()  
turtle.width(7)  
turtle.pencolor('orange')  
turtle.begin\_fill()  
turtle.color("wheat")  
for i in range(4):  
 turtle.pendown()  
 turtle.fd(60)  
 turtle.circle(10, 90)  
turtle.fd(60)  
turtle.penup()  
turtle.fd(30)  
for i in range(4):  
 turtle.pendown()  
 turtle.fd(60)  
 turtle.circle(10, 90)  
turtle.fd(60)  
turtle.penup()  
turtle.fd(30)  
for i in range(4):  
 turtle.pendown()  
 turtle.fd(60)  
 turtle.circle(10, 90)  
turtle.penup()  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.pendown()  
turtle.fd(110)  
turtle.circle(10, 45)  
turtle.fd(60)  
turtle.circle(10, 90)  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.fd(110)  
turtle.penup()  
turtle.circle(0, 135)  
turtle.fd(68)  
turtle.circle(9, 45)  
turtle.pendown()  
turtle.fd(110)  
  
turtle.penup()  
turtle.goto(300, -130)  
turtle.seth(0)  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.fd(110)  
turtle.circle(10, 45)  
turtle.fd(60)  
turtle.pendown()  
turtle.circle(10, 90)  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.fd(110)  
turtle.penup()  
turtle.circle(0, 135)  
turtle.fd(68)  
turtle.circle(9, 45)  
turtle.pendown()  
turtle.fd(110)  
  
turtle.penup()  
turtle.goto(380, -130)  
turtle.seth(0)  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.fd(110)  
turtle.circle(10, 45)  
turtle.fd(60)  
turtle.pendown()  
turtle.circle(10, 90)  
turtle.fd(60)  
turtle.circle(10, 45)  
turtle.fd(110)  
turtle.penup()  
turtle.circle(0, 135)  
turtle.fd(70)  
turtle.circle(9, 45)  
turtle.pendown()  
turtle.fd(110)  
turtle.end\_fill()  
turtle.goto(300, -130)  
  
turtle.width(10)  
turtle.pencolor('wheat')  
turtle.penup()  
turtle.goto(328, -25)  
turtle.seth(0)  
turtle.pendown()  
turtle.fd(56)  
turtle.penup()  
turtle.fd(20)  
turtle.pendown()  
turtle.fd(58)  
turtle.penup()  
turtle.fd(17)  
turtle.pendown()  
turtle.fd(8)  
turtle.penup()  
turtle.fd(15)  
turtle.pendown()  
turtle.fd(58)  
turtle.penup()  
turtle.fd(7)  
turtle.pendown()  
turtle.seth(-90)  
turtle.fd(67)  
  
turtle.penup()  
turtle.goto(356, 0)  
turtle.seth(0)  
turtle.pendown()  
turtle.fd(56)  
turtle.penup()  
turtle.fd(20)  
turtle.pendown()  
turtle.fd(58)  
turtle.penup()  
turtle.fd(17)  
turtle.pendown()  
turtle.fd(6)  
turtle.penup()  
turtle.fd(15)  
turtle.pendown()  
turtle.fd(58)  
turtle.penup()  
turtle.fd(7)  
turtle.pendown()  
turtle.seth(-90)  
turtle.fd(66)  
  
# 画樱花的躯干(60,t)  
  
def Tree4(branch, t):  
 time.sleep(0.0005)  
 if branch > 3:  
 if 8 <= branch <= 12:  
 if random.randint(0, 2) == 0:  
 t.color('white')   
 else:  
 t.color('white')   
 t.pensize(branch / 3)  
 elif branch < 8:  
 if random.randint(0, 1) == 0:  
 t.color('white')  
 else:  
 t.color('white')   
 t.pensize(branch / 2)  
 else:  
 t.color('sienna')   
 t.pensize(branch / 10)   
 t.forward(branch)  
 a = 1.5 \* random.random()  
 t.right(20 \* a)  
 b = 1.5 \* random.random()  
 Tree4(branch - 10 \* b, t)  
 t.left(40 \* a)  
 Tree4(branch - 10 \* b, t)  
 t.right(20 \* a)  
 t.up()  
 t.backward(branch)  
 t.down()  
  
  
# 掉落的花瓣  
def Petal4(m, t):  
 for i in range(m):  
 a = 200 - 400 \* random.random()  
 b = 10 - 20 \* random.random()  
 t.up()  
 t.forward(b)  
 t.left(90)  
 t.forward(a)  
 t.down()  
 t.color('white')   
 t.circle(1)  
 t.up()  
 t.backward(a)  
 t.right(90)  
 t.backward(b)  
  
#雪人  
def Snowman():  
 t.penup()  
 t.goto(300,-150)  
 t.seth(0)  
 t.pendown()  
 t.pensize(2)  
 t.color('Black')  
 t.begin\_fill()  
 t.circle(30, 360)  
 t.circle(-60, 360)  
 t.color('White')  
 t.end\_fill()  
 t.pensize(10)  
 t.color('Black')  
 t.seth(90)  
 t.penup()  
 t.forward(40)  
 t.seth(180)  
 t.forward(10)  
 t.pendown()  
 t.forward(3)  
 t.penup()  
 t.seth(0)  
 t.forward(23)  
 t.pendown()  
 t.forward(3)  
 t.seth(180)  
 t.penup()  
 t.forward(13)  
 t.seth(-90)  
 t.forward(10)  
 t.pensize(2)  
 t.pencolor('red')  
 t.pendown()  
 t.seth(-5)  
 t.forward(40)  
 t.seth(185)  
 t.forward(40)  
 t.penup()  
 t.seth(-90)  
 t.forward(40)  
 t.seth(180)  
 t.forward(30)  
 t.pencolor('Black')  
 t.seth(135)  
 t.pendown()  
 t.forward(60)  
 t.penup()  
 t.backward(60)  
 t.seth(0)  
 t.forward(60)  
 t.seth(45)  
 t.pendown()  
 t.forward(60)  
 t.penup()  
 t.seth(90)  
  
  
# 画樱花的躯干  
random.seed(7)  
Tree4(60, t)  
# 掉落的花瓣  
random.seed(7)  
Petal4(200, t)  
Snowman()  
w.exitonclick()