

turtle 库的使用

1.初步了解 turtle 库

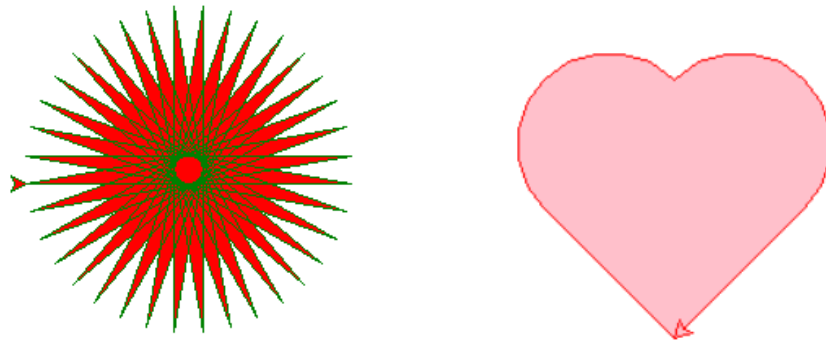
- 1) 掌握 turtle 绘图窗体的布局及设置函数
- 2) 掌握 turtle 空间的坐标体系及海龟的运行函数
- 3) 掌握 turtle 角度坐标体系及海龟的控制函数
- 4) 掌握 RGB 色彩体系及绘图颜色的设置函数
- 5) 掌握画笔的控制函数

2.实训内容

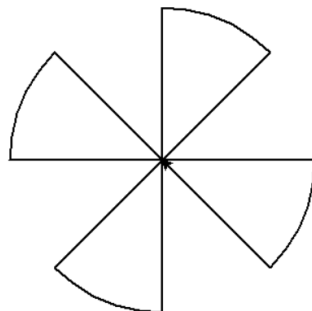
- 1) 利用 turtle 绘制蟒蛇，理解各函数的作用。

```
import turtle
turtle.setup(800, 400, 200, 200)
turtle.pensize(20)
turtle.pencolor("purple")
turtle.penup()
turtle.fd(-300)
turtle.pendown()
turtle.seth(-40)
for i in range(4):
    turtle.circle(40, 80)
    turtle.circle(-40, 80)
turtle.circle(40, 80/2)
turtle.fd(40)
turtle.circle(16, 180)
turtle.fd(40*2/3)
turtle.done()
```

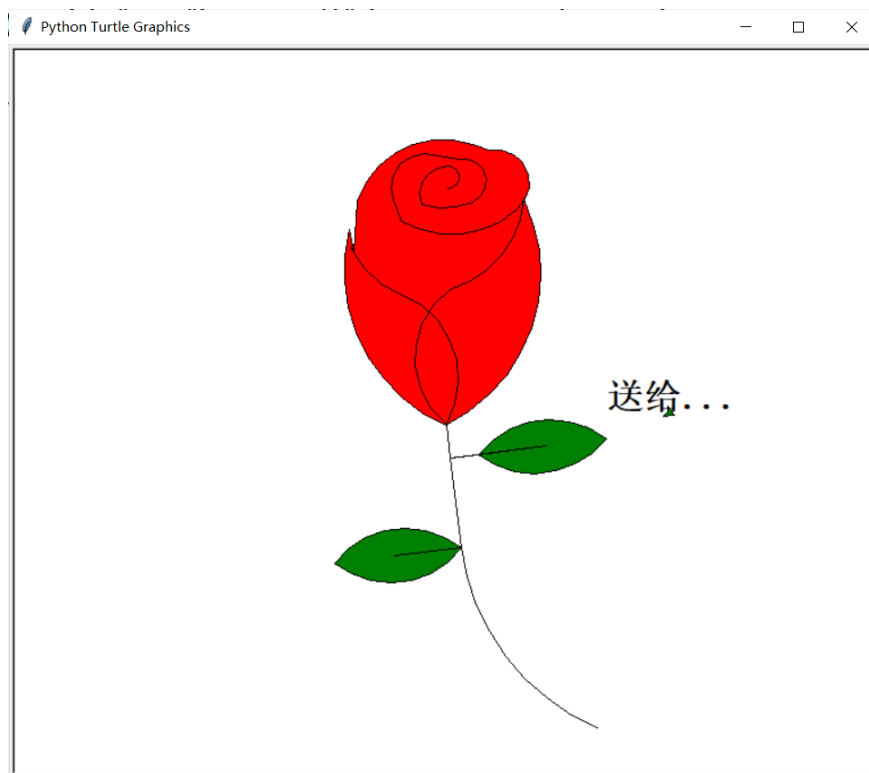
- 2) 利用 turtle 库绘制太阳花*, 或者心型图, 如下图所示。



- 3) 使用 turtle 库, 绘制一个风轮效果, 其中, 每个风轮内角为 45 度, 风轮边长 150 像素。



4) 使用 turtle 库, 绘制如下玫瑰花。(可选)



```
import turtle
# 设置初始位置
turtle.speed(8)
turtle.penup()
turtle.left(90)
turtle.fd(200)
turtle.pendown()
turtle.right(90)
# 花蕊
turtle.fillcolor("red")
turtle.begin_fill()
turtle.circle(10, 180)
turtle.circle(25, 110)
turtle.left(50)
turtle.circle(60, 45)
turtle.circle(20, 170)
turtle.right(24)
turtle.fd(30)
turtle.left(10)
turtle.circle(30, 110)
turtle.fd(20)
turtle.left(40)
turtle.circle(90, 70)
turtle.circle(30, 150)
```

```
turtle.right(30)
turtle.fd(15)
turtle.circle(80, 90)
turtle.left(15)
turtle.fd(45)
turtle.right(165)
turtle.fd(20)
turtle.left(155)
turtle.circle(150, 80)
turtle.left(50)
turtle.circle(150, 90)
turtle.end_fill()
# 花瓣 1
turtle.left(150)
turtle.circle(-90, 70)
turtle.left(20)
turtle.circle(75, 105)
turtle.setheading(60)
turtle.circle(80, 98)
turtle.circle(-90, 40)

# 花瓣 2
turtle.left(180)
turtle.circle(90, 40)
turtle.circle(-80, 98)
turtle.setheading(-83)
# 叶子 1
turtle.fd(30)
turtle.left(90)
turtle.fd(25)
turtle.left(45)
turtle.fillcolor("green")
turtle.begin_fill()
turtle.circle(-80, 90)
turtle.right(90)
turtle.circle(-80, 90)
turtle.end_fill()

turtle.right(135)
turtle.fd(60)
turtle.left(180)
turtle.fd(85)
turtle.left(90)
turtle.fd(80)
```

```
# 叶子 2
turtle.right(90)
turtle.right(45)
turtle.fillcolor("green")
turtle.begin_fill()
turtle.circle(80, 90)
turtle.left(90)
turtle.circle(80, 90)
turtle.end_fill()

turtle.left(135)
turtle.fd(60)
turtle.left(180)
turtle.fd(60)
turtle.right(90)
turtle.circle(200, 60)

turtle.penup()
turtle.goto(200,0)
turtle.write("送给...",align='center',font=('楷书',24,'bold'))

turtle.done()
```