다양한 터틀 예제 따라하기

6주차_01_03

한동대학교
김경미 교수

학습목표

- 다양한 turtle 예제 이해하기

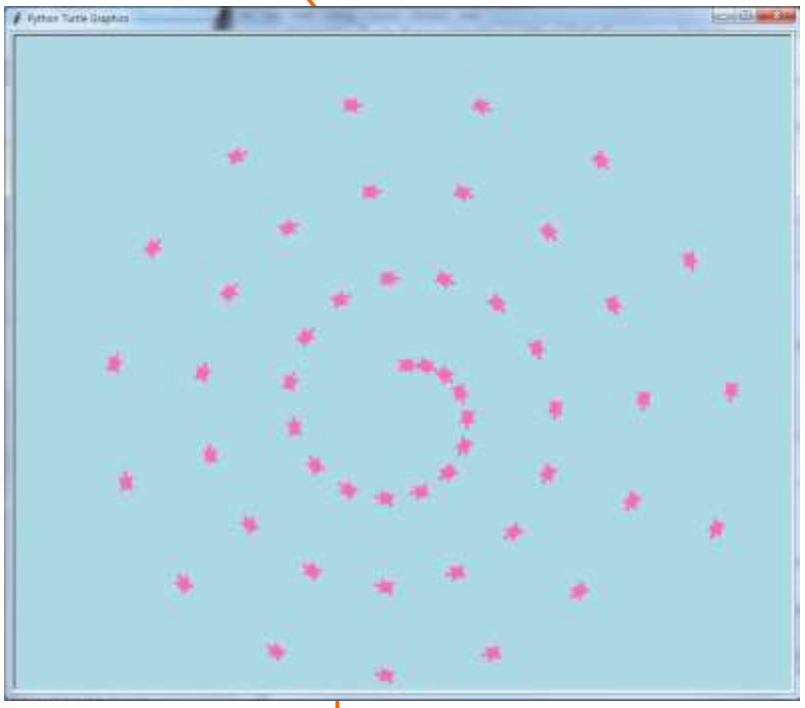
미로그리기


```
import turtle

wn = turtle.Screen()
wn.bgcolor("lightblue")
t = turtle.Turtle()
t.shape("turtle")
t.color("hotpink")

t.penup()
size = 20

for i in range(50):
    t.stamp()
    size = size + 3
    t.forward(size)
    t.right(24)
```

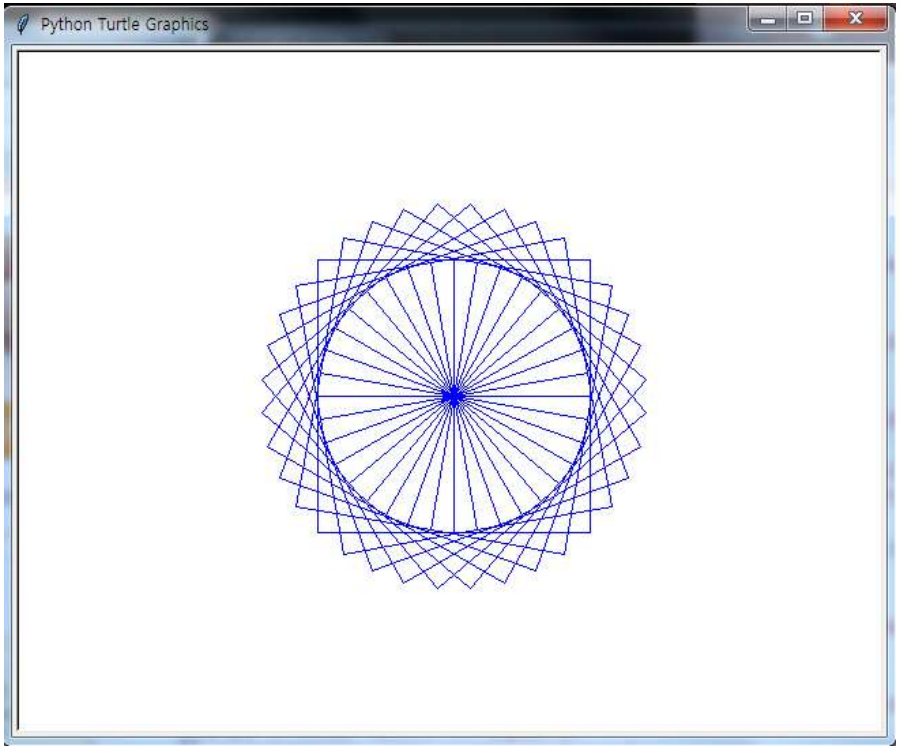


정사각형 36개 배치


```
import turtle

t = turtle.Turtle()
t.color('blue')

for i in range(36):
    t.left(10)
    for j in range(4):
        t.forward(100)
        t.left(90)
```



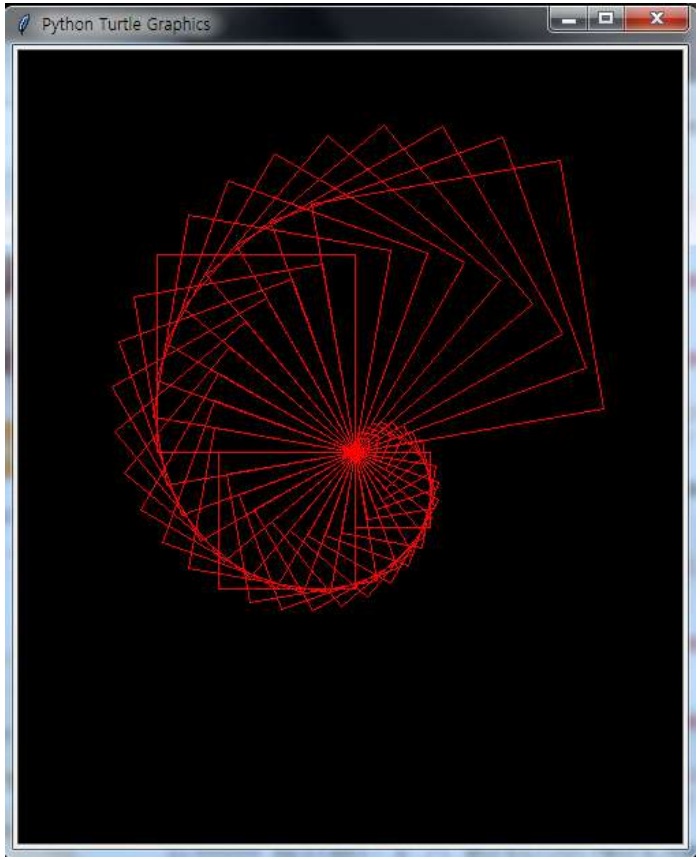
점점 커지는 정사각형 36개


```
import turtle

win=turtle.Screen()
win.bgcolor('black')

t = turtle.Turtle()
t.color('red')

for i in range(36):
    t.forward(10+i*5)
    t.left(90)
    t.forward(10+i*5)
    t.left(90)
    t.forward(10+i*5)
    t.left(90)
    t.forward(10+i*5)
    t.left(80)
```



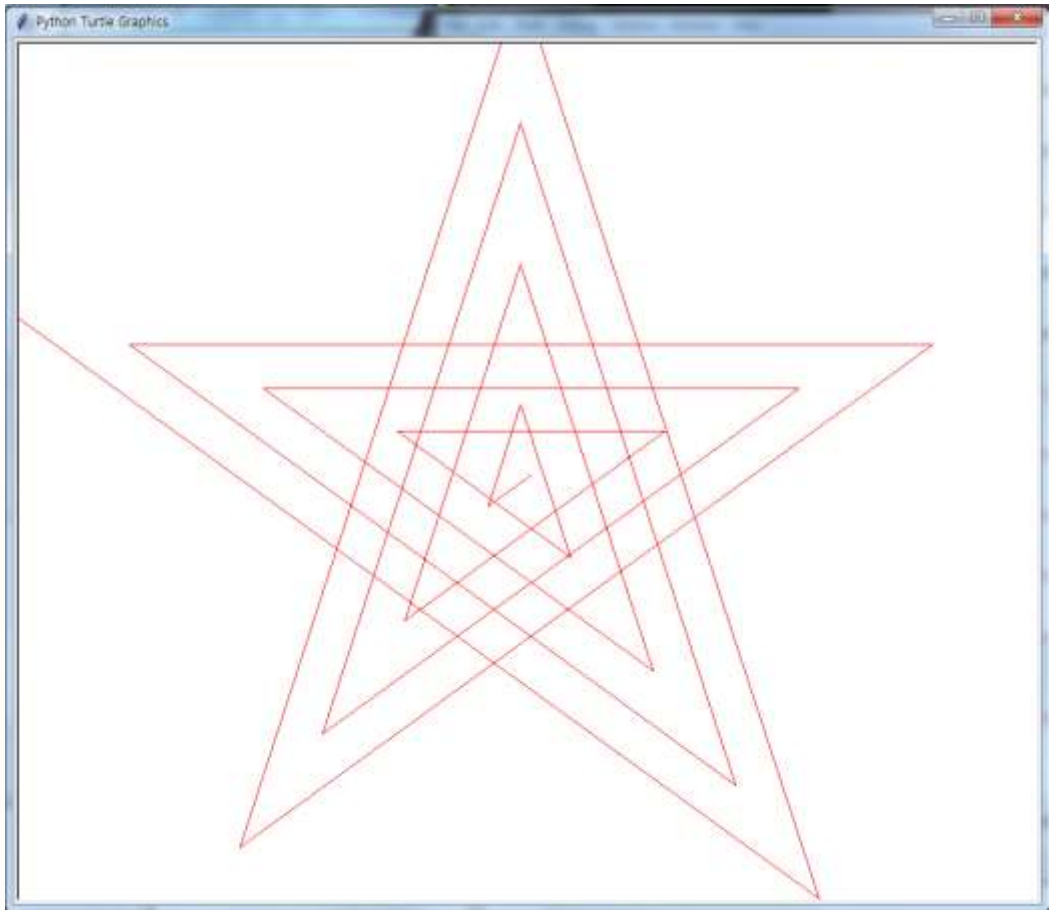
점점 커지는 별


```
import turtle

star=turtle.Turtle()
star.color('red')

for i in range(20):
    star.forward(i*50)
    star.right(144)

turtle.done()
```



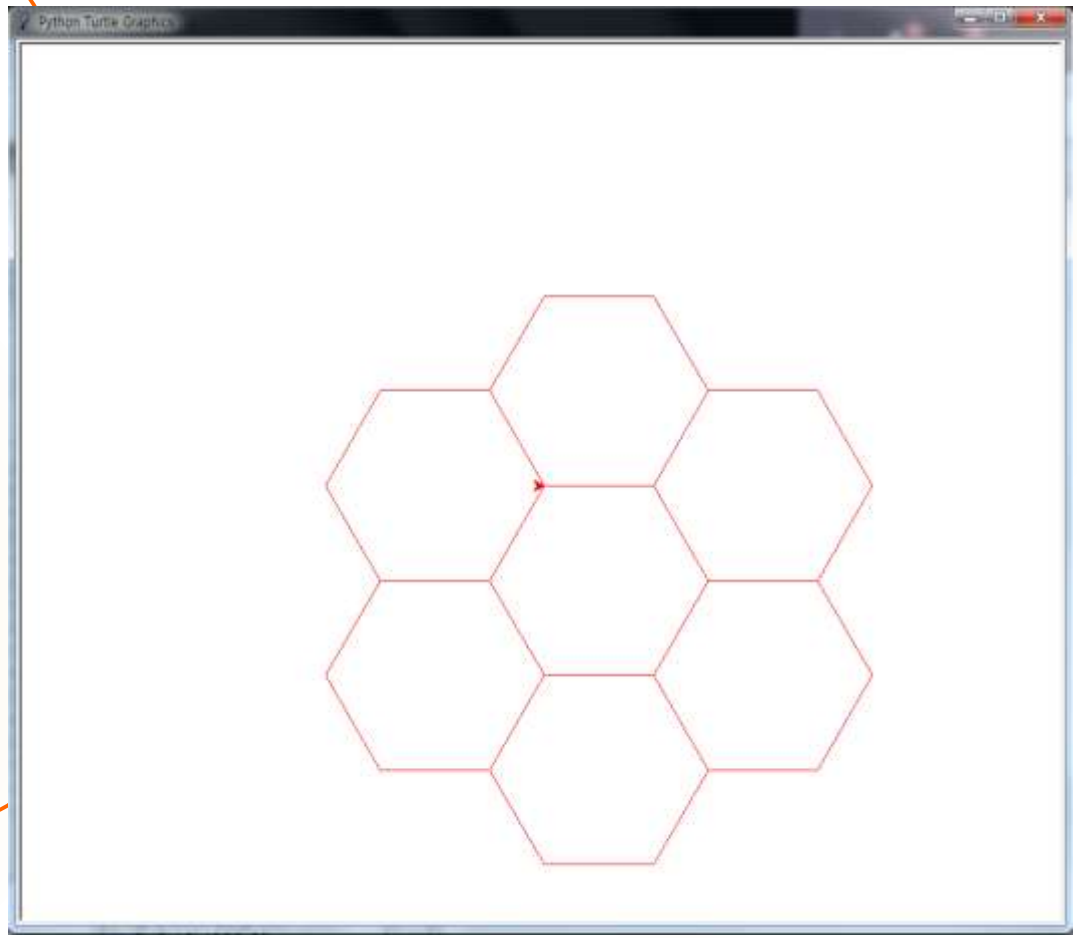
벌집 그리기, 함수


```
import turtle

def hexagon():
    for i in range(6):
        turtle.forward(100)
        turtle.left(60)

turtle.color('red')
hexagon()

for i in range(6):
    hexagon()
    turtle.forward(100)
    turtle.right(60)
```



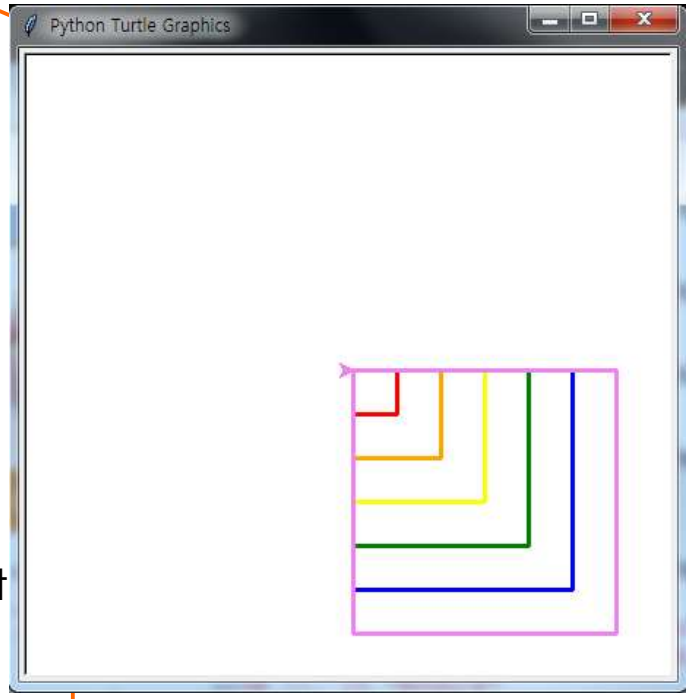
여러가지 색 정사각형 그리기, 함수


```
import turtle

def square(t, size, color):
    t.color(color)
    for i in range(4):
        t.forward(size)
        t.right(90)

t1 = turtle.Turtle()
t1.pensize(3)
colors = ['red', 'orange', 'yellow', 'green', 'blue', 'violet

i=30
for color in colors:
    square(t1, i, color)
    i=i+30
```



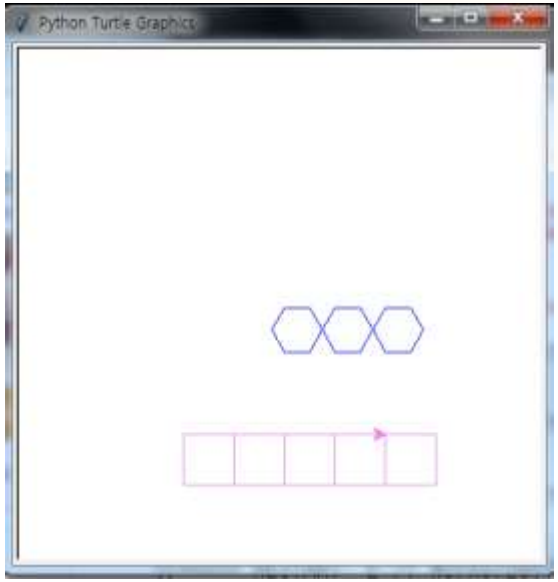
다각형 그리기, 함수


```
import turtle
t=turtle.Turtle()

def drawPolygon(sideLength, numSides, color):
    t.color(color)
    turnAngle= 360 / numSides
    for i in range(numSides):
        t.pendown()
        t.forward(sideLength)
        t.right(turnAngle)

for i in range(3):
    t.penup()
    t.setposition(40*i, 0)
    drawPolygon(20, 6, "blue")

for i in range(5):
    t.penup()
    t.setposition(40*(i-2), -100)
    drawPolygon(40, 4, "violet")
```



꽃 그리기, 함수

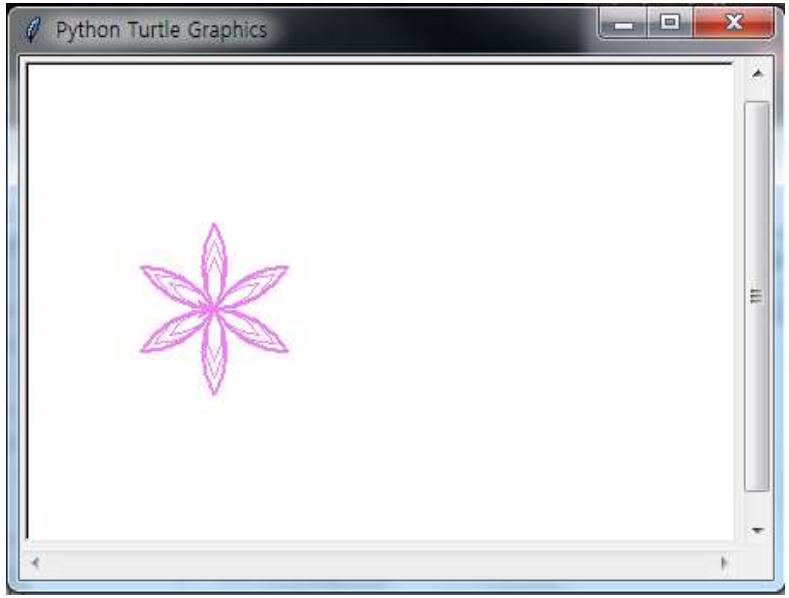

```
import turtle

def flower(t, n, r, angle):
    for i in range(n):
        for i in range(2):
            t.circle(r,angle)
            t.left(180-angle)
        t.left(360/n)

def move(t, length):
    t.pu()
    t.fd(length)
    t.pd()

b = turtle.Pen()
b.color("violet")
move(b, -100)

for i in range(3):
    flower(b, 6, 30+(10*i), 60.0)
    b.width(2*i)
```



여러 개 원 출력, 함수

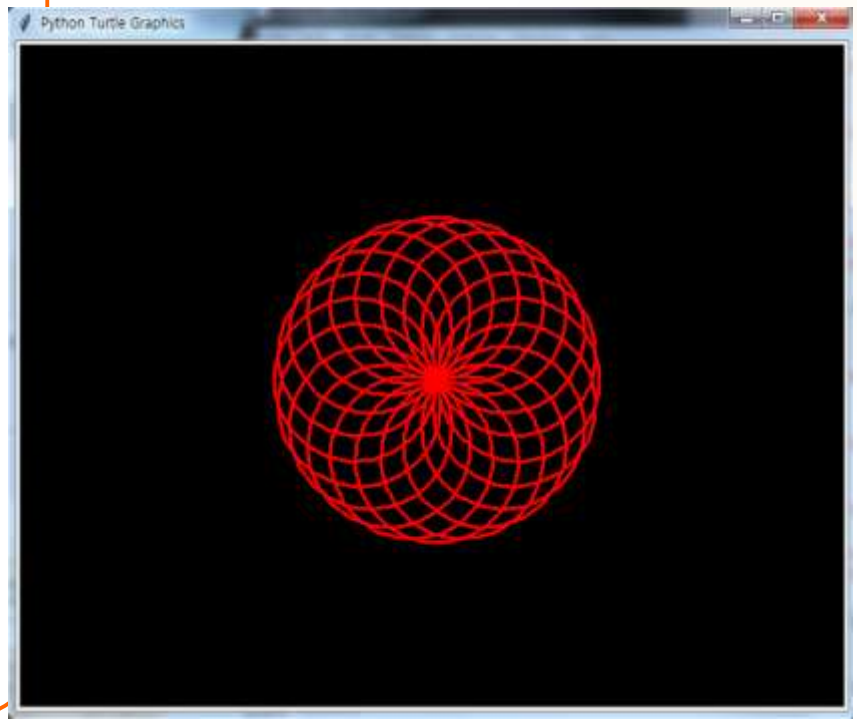

```
import turtle

win=turtle.Screen()
win.bgcolor('black')

one = turtle.Turtle()
one.color('red')
one.pensize(3)

def n_one(n, size):
    for i in range(n):
        one.circle(size)
        one.left(360.0/n)

n_one(20, 70)
```



강의 요약

- 다양한 turtle 예제 따라하기
  - 미로, 정사각형, 별, 벌집, 다각형, 꽃, 원 그리기

목표 달성 질문

- Turtle를 활용하여 도형을 여러 개 표현 할 수 있나요?

감사합니다