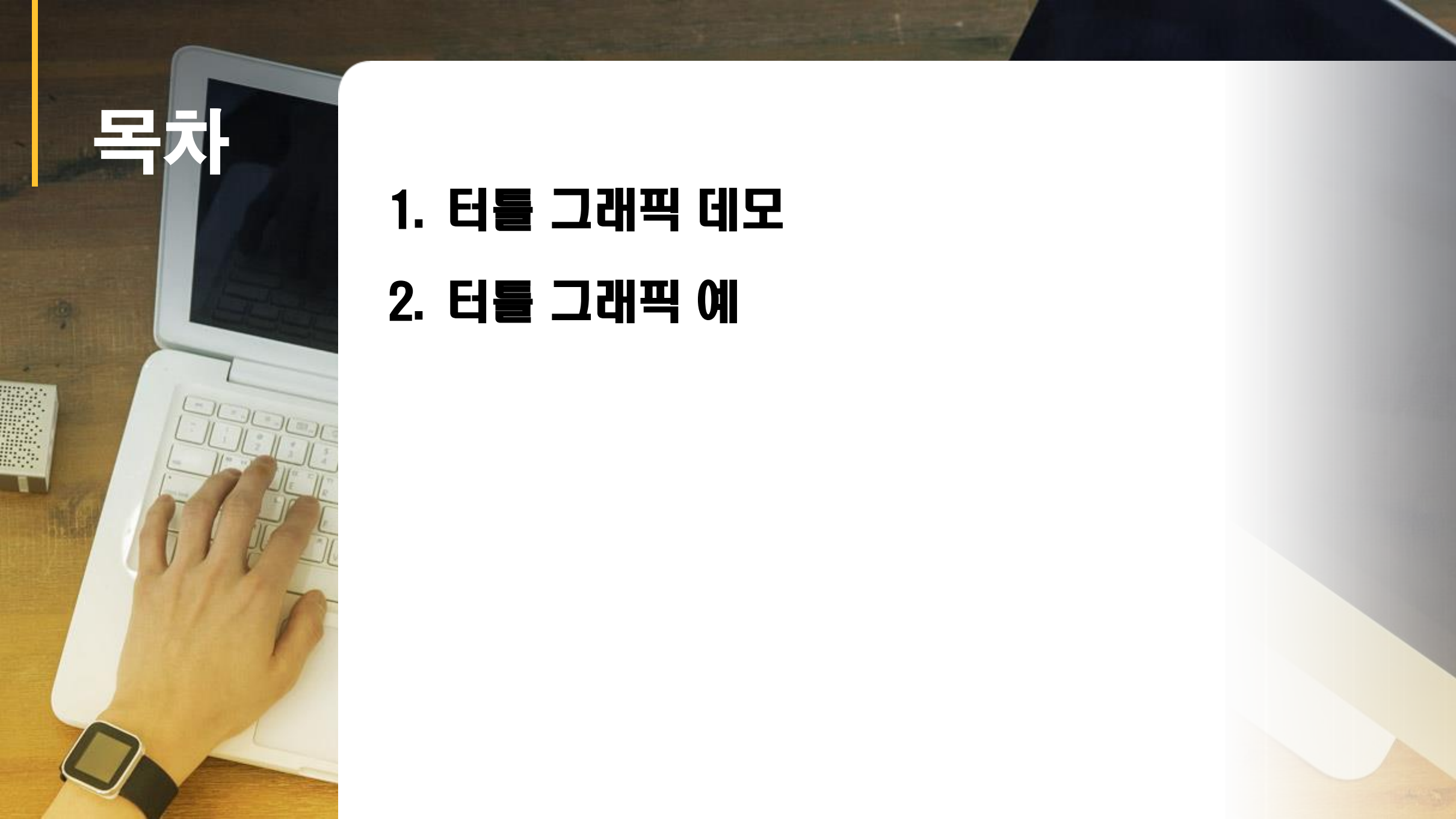
KOOKMIN UNIVERSITY

터틀 그래픽

소프트웨어융합대학
교수 진혜진

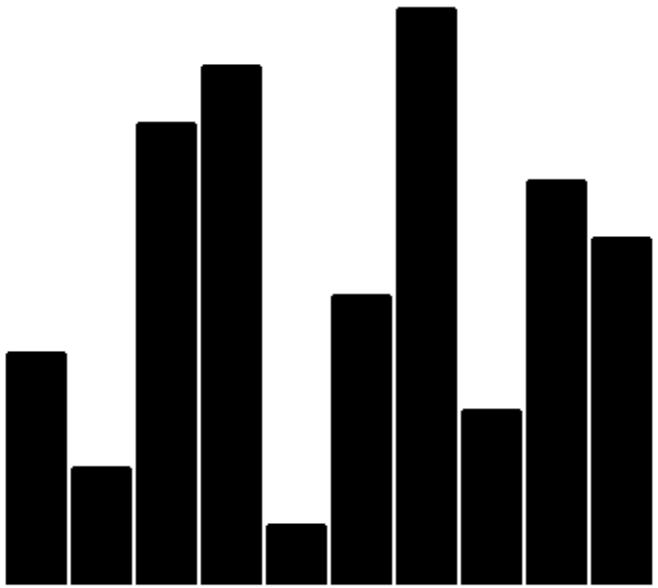


목차

sorting_animate - a Python turtle graphics example

Examples Fontsize Help

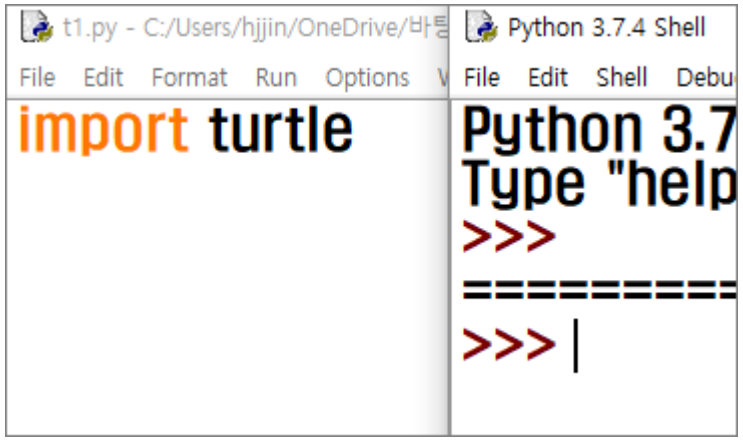
```
#!/usr/bin/env python3
"""

        sorting_animation.py

A minimal sorting algorithm animation:
Sorts a shelf of 10 blocks using insertion
sort, selection sort and quicksort.

Shelfs are implemented using builtin lists.

Blocks are turtles with shape "square", but
stretched to rectangles by shapesize()
 ---------------------------------------
      To exit press space button
 ---------------------------------------
"""
from turtle import *
import random


class Block(Turtle):

    def __init__(self, size):
        self.size = size
        Turtle.__init__(self, shape="square",
        self.pu()
        self.shapesize(size * 1.5, 1.5, 2) #
        self.fillcolor("black")
        self.st()

    def glow(self):
        self.fillcolor("red")

    def unglow(self):
        self.fillcolor("black")

    def __repr__(self):
        return "Block size: {0}".format(self.


class Shelf(list):

    def __init__(self, y):
        "create a shelf. y is y-position of f
        self.y = y
        self.x = -150
```

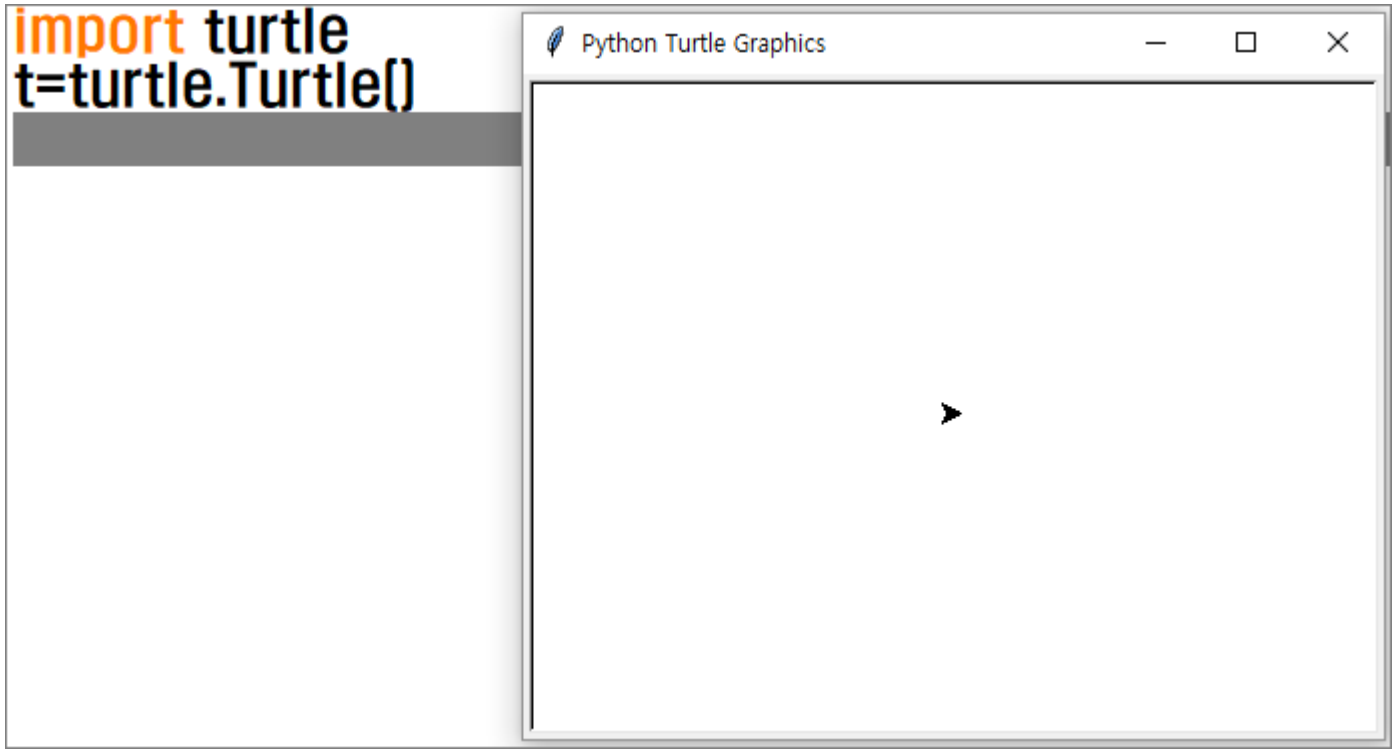


ess i for insertion sort, s for selection sort, q for quickso
spacebar to quit, r to randomize

use mouse/keys or STOP | START | STOP | CLEAR

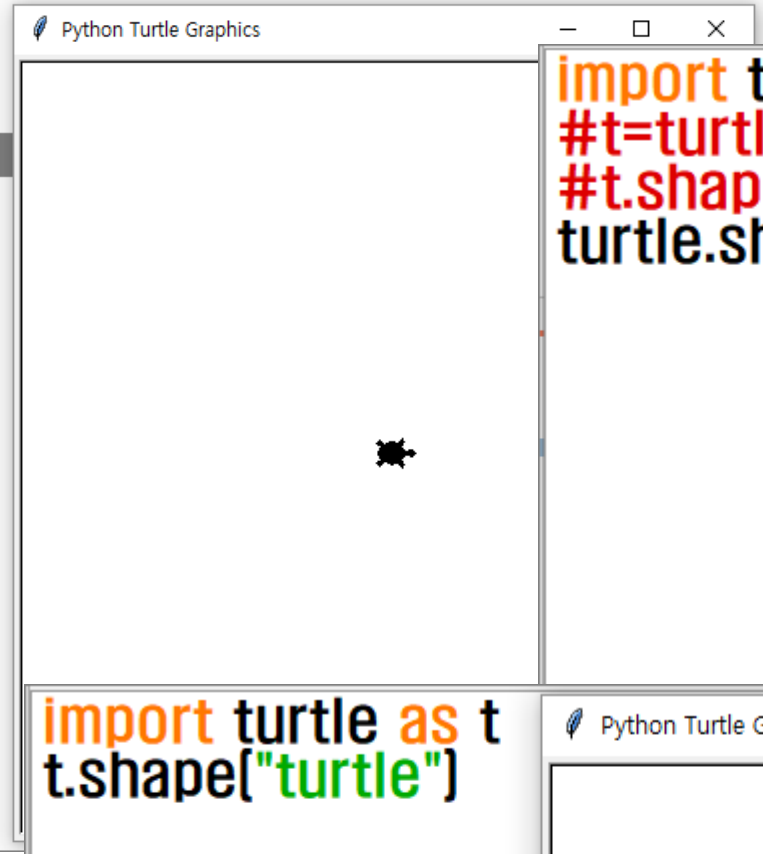
- **터틀 그래픽**
  - 화면에서 그림을 그리는 기능



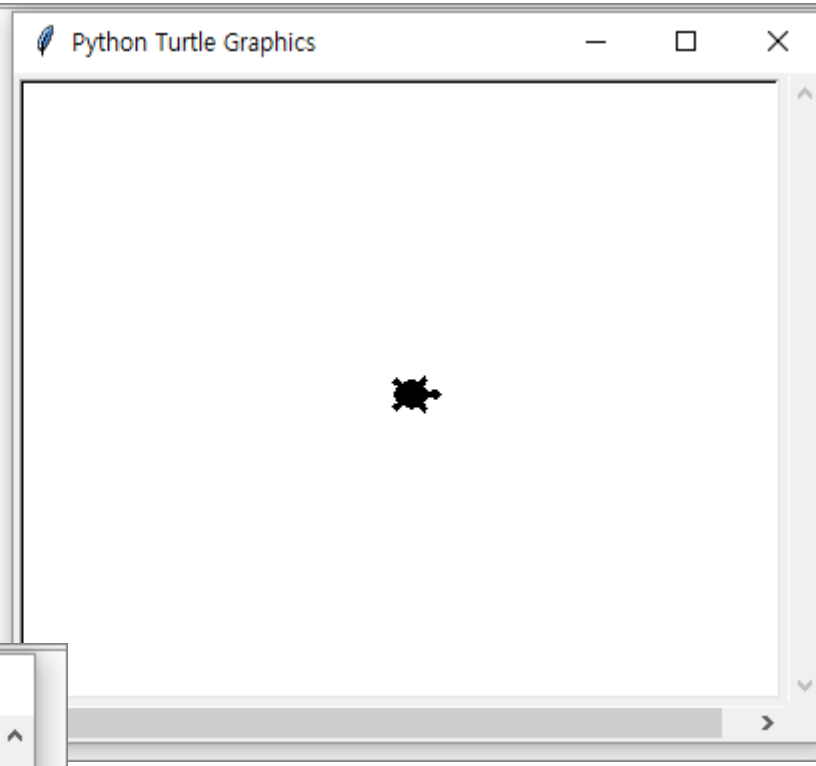


터틀 그래픽

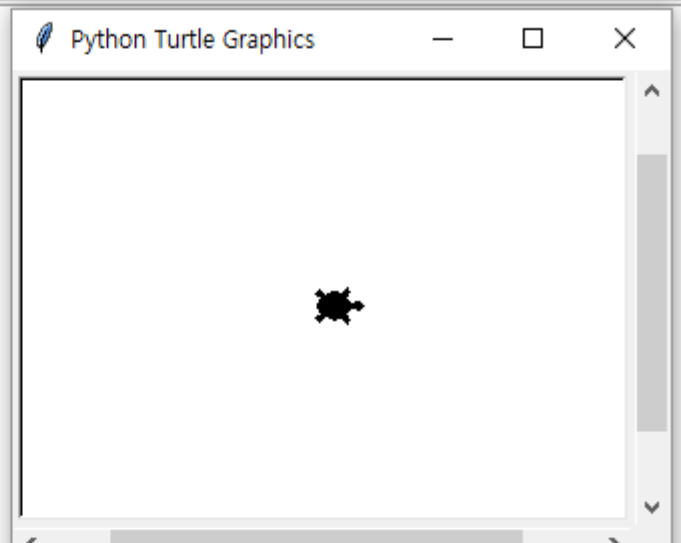
```
import turtle
t=turtle.Turtle()
t.shape("turtle")
```

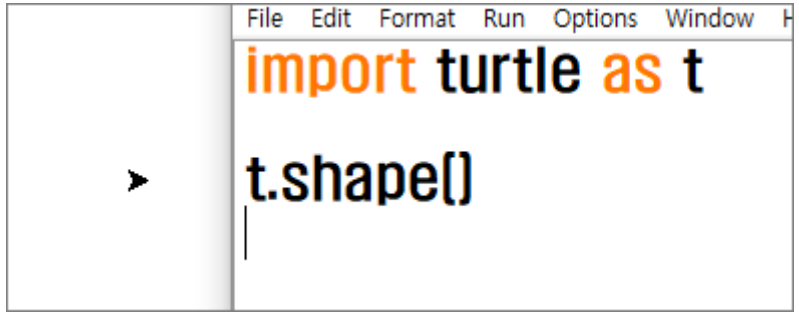



```
import turtle
#t=turtle.Turtle()
#t.shape("turtle")
turtle.shape("turtle")
```




```
import turtle as t
t.shape("turtle")
```

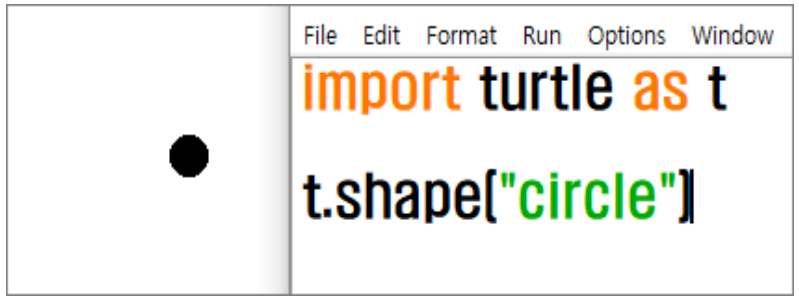



File Edit Format Run Options Window
import turtle as t
t.shape()


import turtle as t
t.shape("square")


import turtle as t
t.shape("arrow")

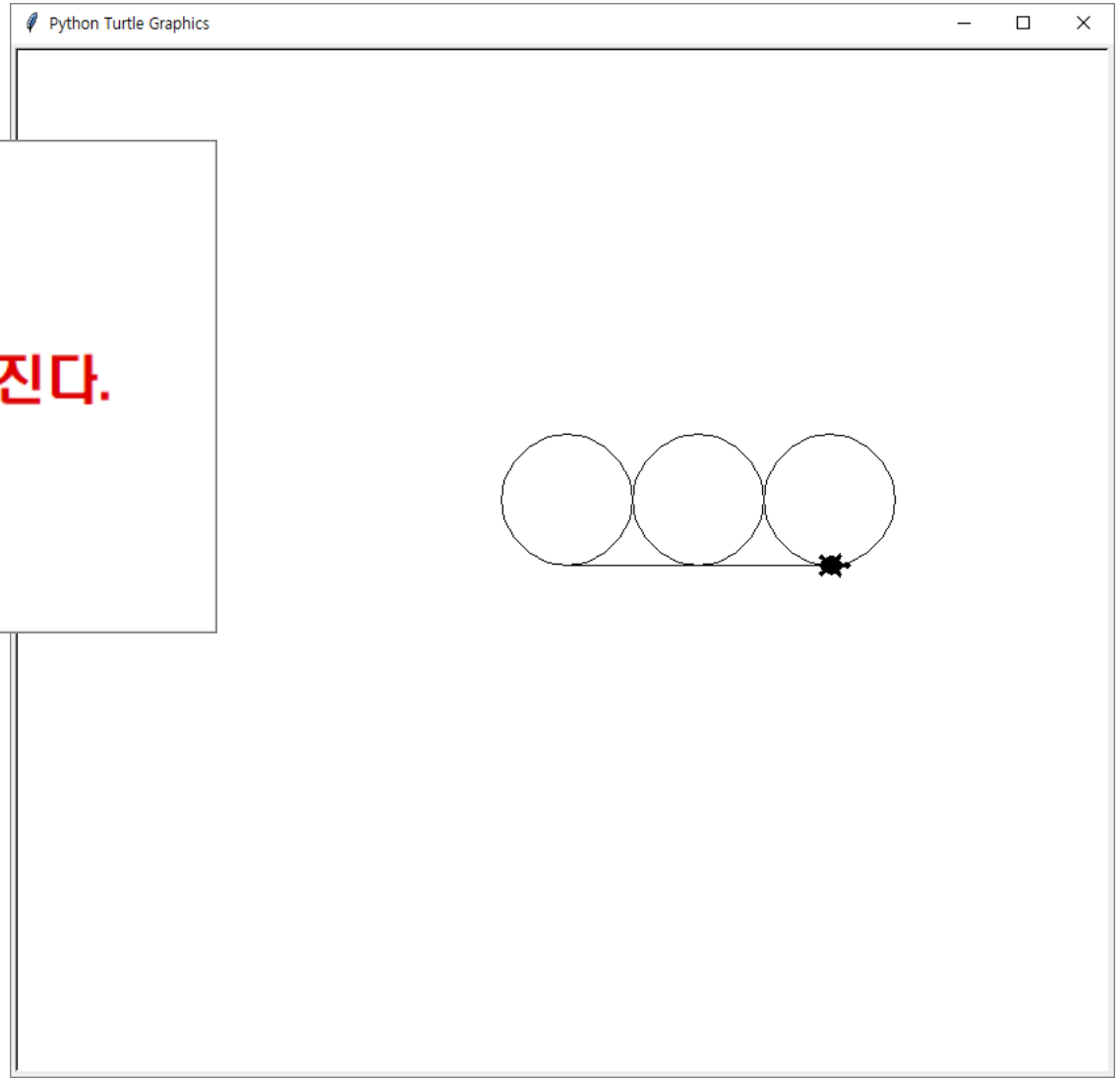

import turtle as t
t.shape("triangle")


File Edit Format Run Options Window
import turtle as t
t.shape("circle")

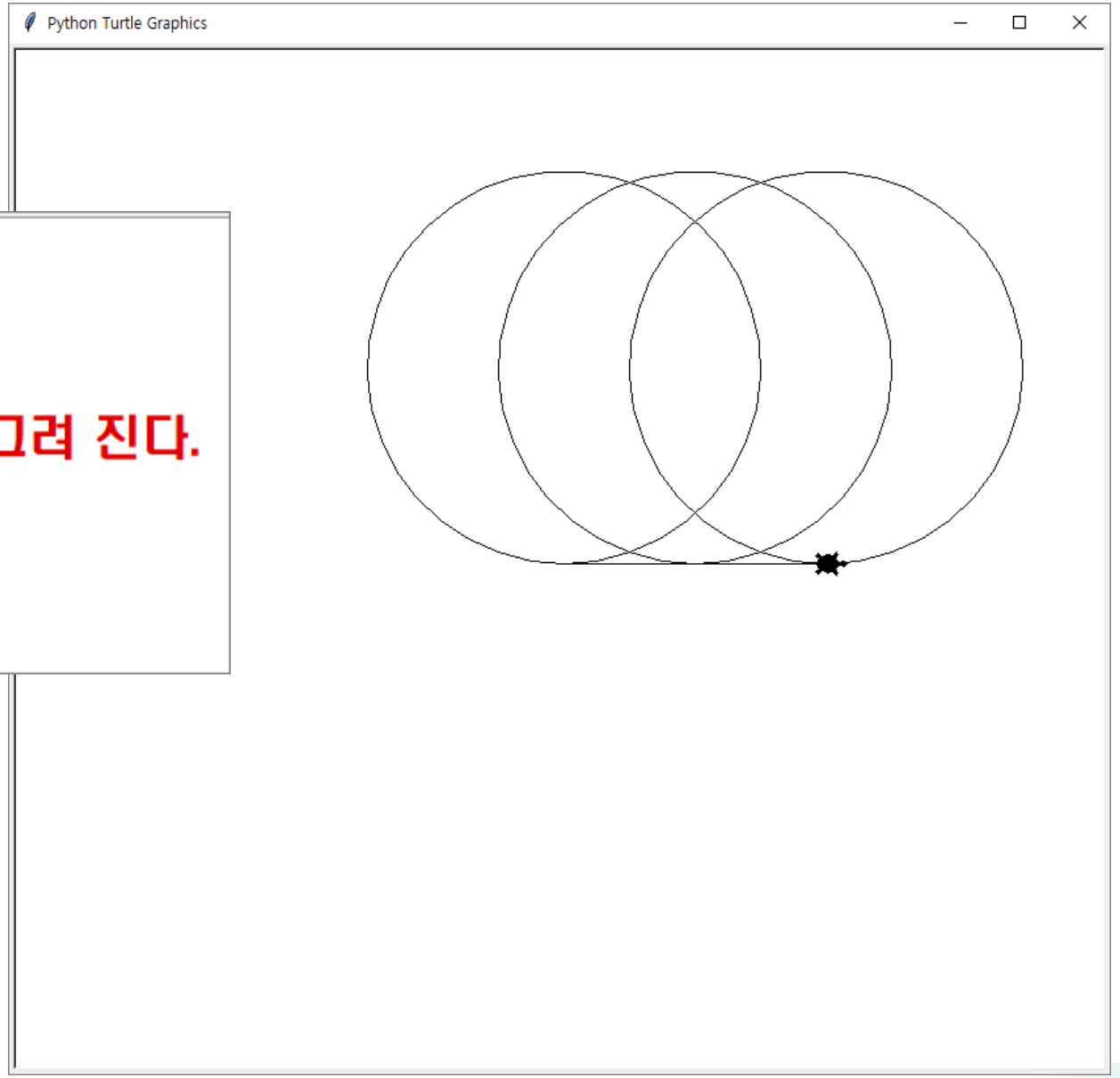

import turtle as t
t.shape("classic")

터틀 그래픽

```
import turtle as t
t.shape("turtle")

radius = 50
t.circle(radius) # 반지름이 50인 원이 그려 진다.
t.fd(100)
t.circle(radius)
t.fd(100)
t.circle(radius)
```

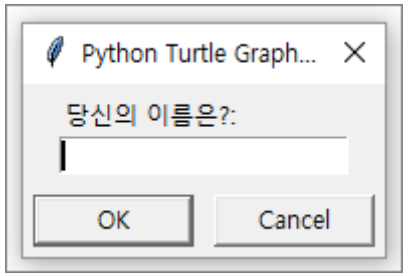


```
import turtle as t
t.shape("turtle")

radius = 150
t.circle(radius) # 반지름이 150인 원이 그려 진다.
t.fd(100)
t.circle(radius)
t.fd(100)
t.circle(radius)
```

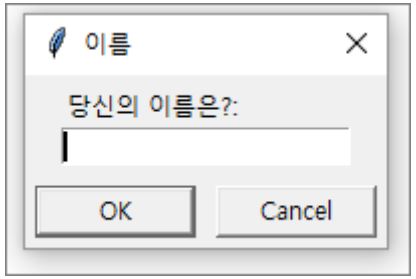


- **터틀 그래픽에서 문자열 입력**
  - 변수 = turtle.textinput("제목", 출력할 문자열")

- **name = turtle.textinput("", "이름을 입력하시오: ")**



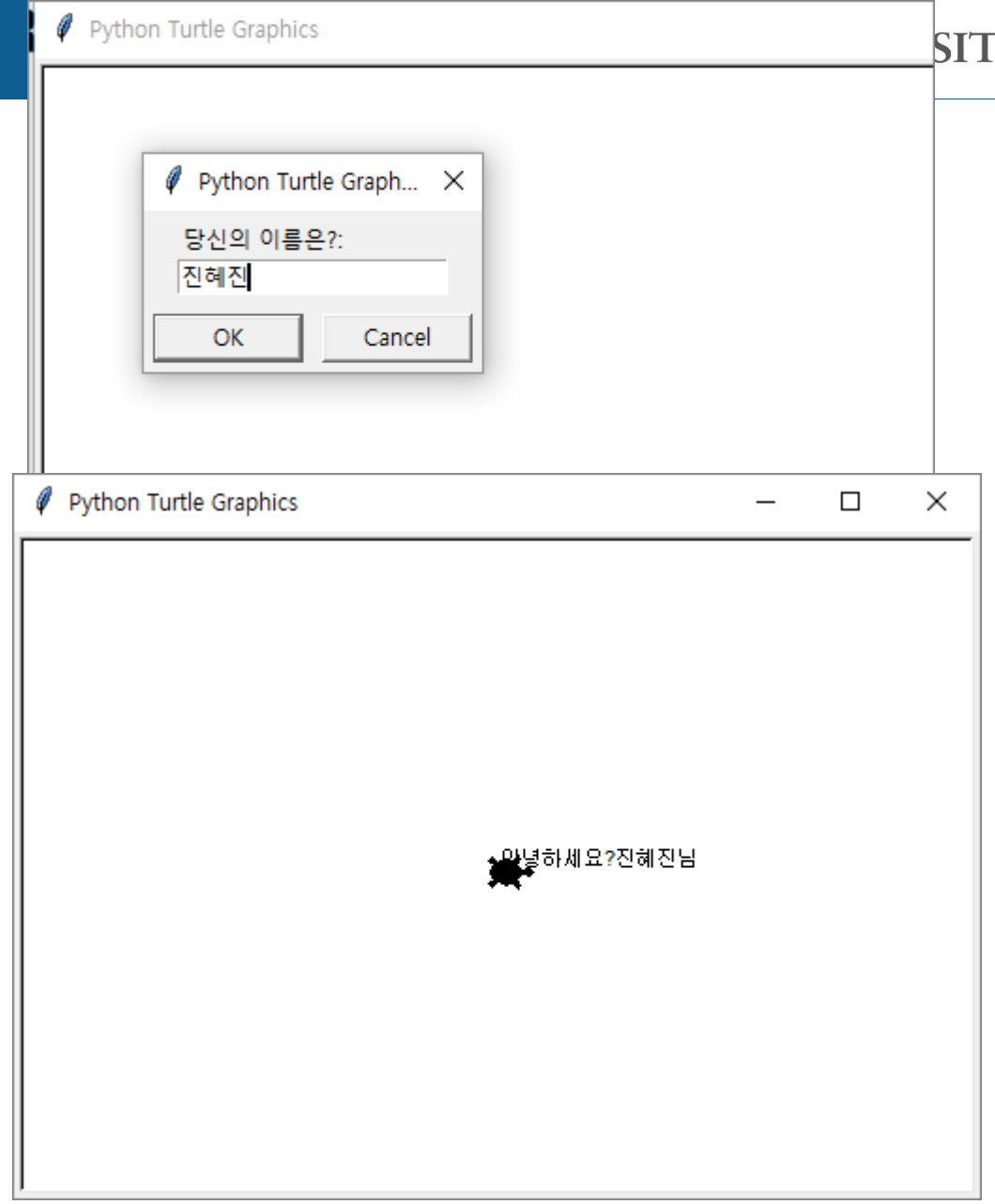
- **name = turtle.textinput("이름", "당신의 이름은?: ")**



- **터틀 그래픽에서 문자열 출력**
  - turtle.write("문자열"+변수)

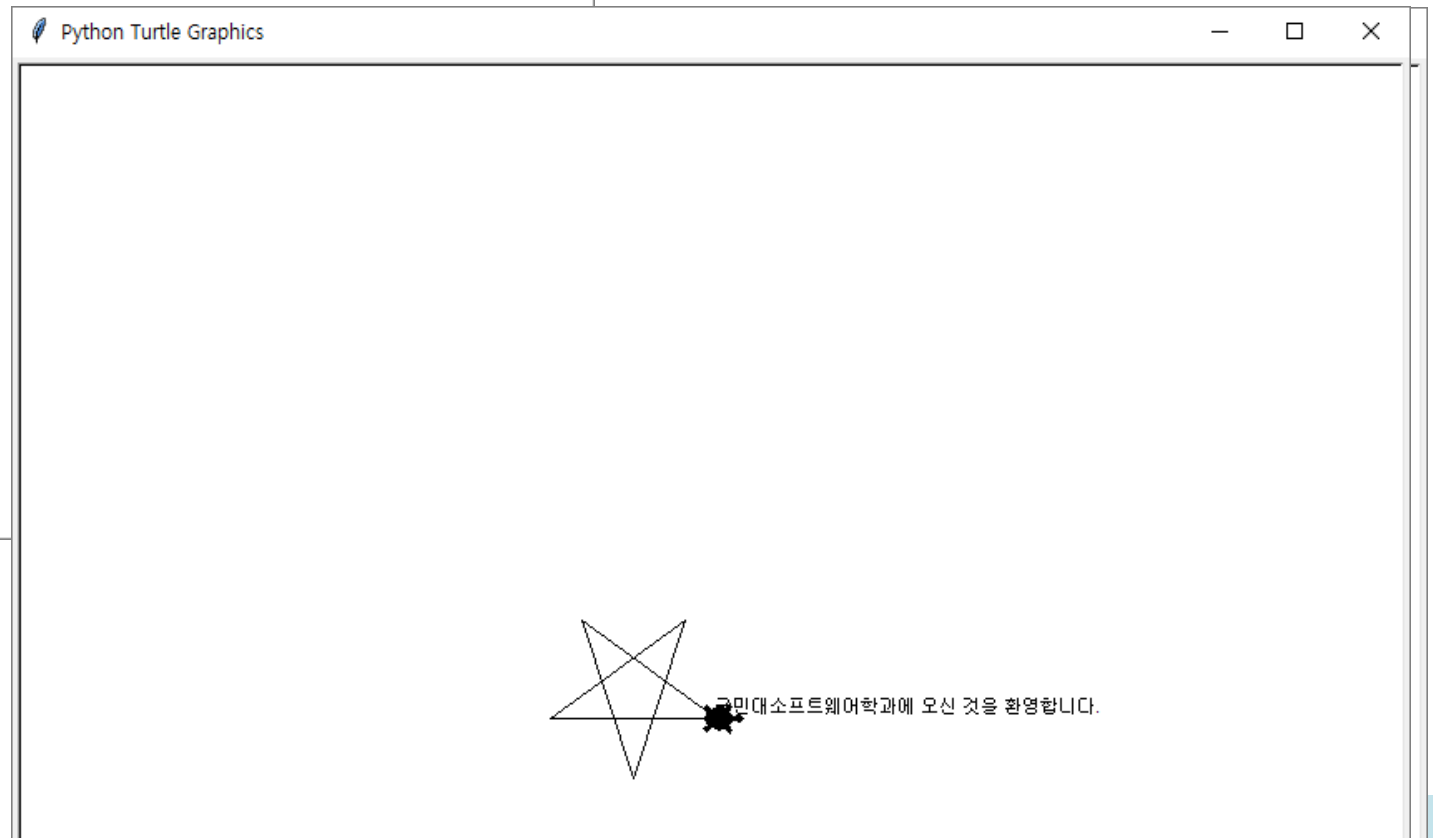
- **t.write("안녕하세요?"+name+"님")**

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

name = turtle.textinput("", "당신의 이름은?: ")
t.write("안녕하세요?"+name+"님")
```

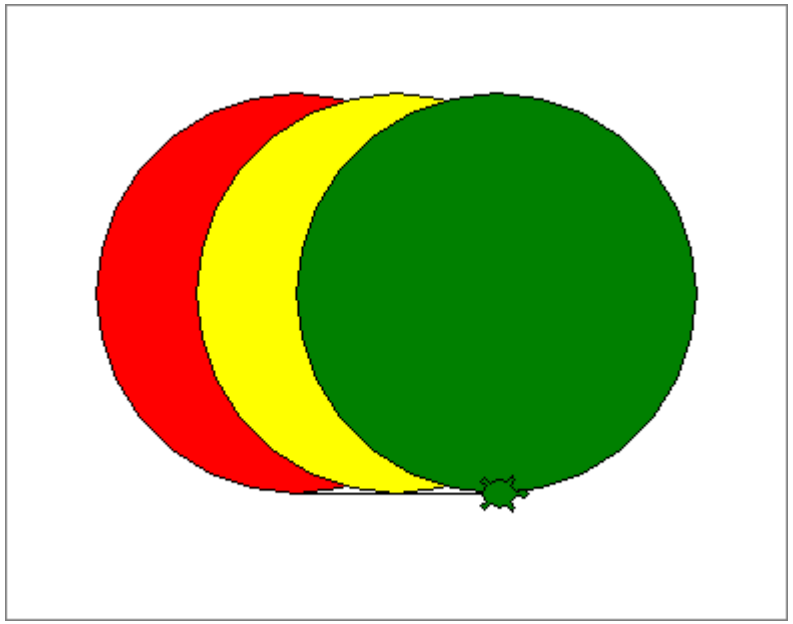


터틀 그래픽


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

major = turtle.textinput("국민대", "학과를 입력하세요.: ")
t.write("국민대" + major +"에 오신 것을 환영합니다.")
t.left(144)
t.forward(100)
t.left(144)
t.forward(100)
t.left(144)
t.forward(100)
t.left(144)
t.forward(100)
t.left(144)
t.forward(100)
```

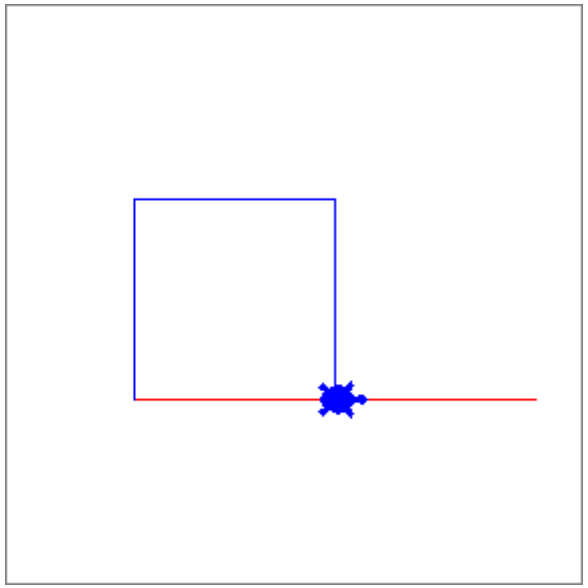


```
import turtle as t
t.shape("turtle")

color = [ "red", "yellow", "green" ]

t.fillcolor(color[0])
t.begin_fill()
t.circle(100)
t.end_fill()

t.fd(50)
t.fillcolor(color[1])
t.begin_fill()
t.circle(100)
t.end_fill()

t.fd(50)
t.fillcolor(color[2])
t.begin_fill()
t.circle(100)
t.end_fill()
```



- 터틀 그래픽 함수

```
import turtle as t

t.shape("turtle")
t.speed(1)
t.color("green")
t.fd(100)
t.color("red")
t.bk(200) #back
t.color("blue")
t.lt(90)
t.fd(100)
t.rt(90)
t.fd(100)
t.home()
#t.clear()
#t.ht()
```



- **터틀 그래픽 함수**

```
import turtle as t

t.bgcolor("black")
t.shape("turtle")
t.title("jinhyejin")
t.color("white")
t.fillcolor("white")
t.begin_fill()
t.fd(100)
t.lt(144)
t.fd(100)
t.lt(144)
t.fd(100)
t.lt(144)
t.fd(100)
t.lt(144)
t.fd(100)
t.lt(144)
t.fd(100)
t.lt(144)
t.end_fill()
t.ht()
```