Lecture #2. 파이썬 기초 (2)

2D 게임 프로그래밍

이대현 교수

한국공학대학교
TECH UNIVERSITY OF KOREA

Turtle 모듈

- 거북이가 펜을 가지고, 화면 위를 다니면서 그림을 그림.
- 전진, 후진, 회전, 원 그리기 등 다양하게 움직이면서 그림을 그릴 수 있음.

펜을 물고 있는 거북이

모듈의 사용 문법

모듈을 사용하기 위해 수입(import)함.

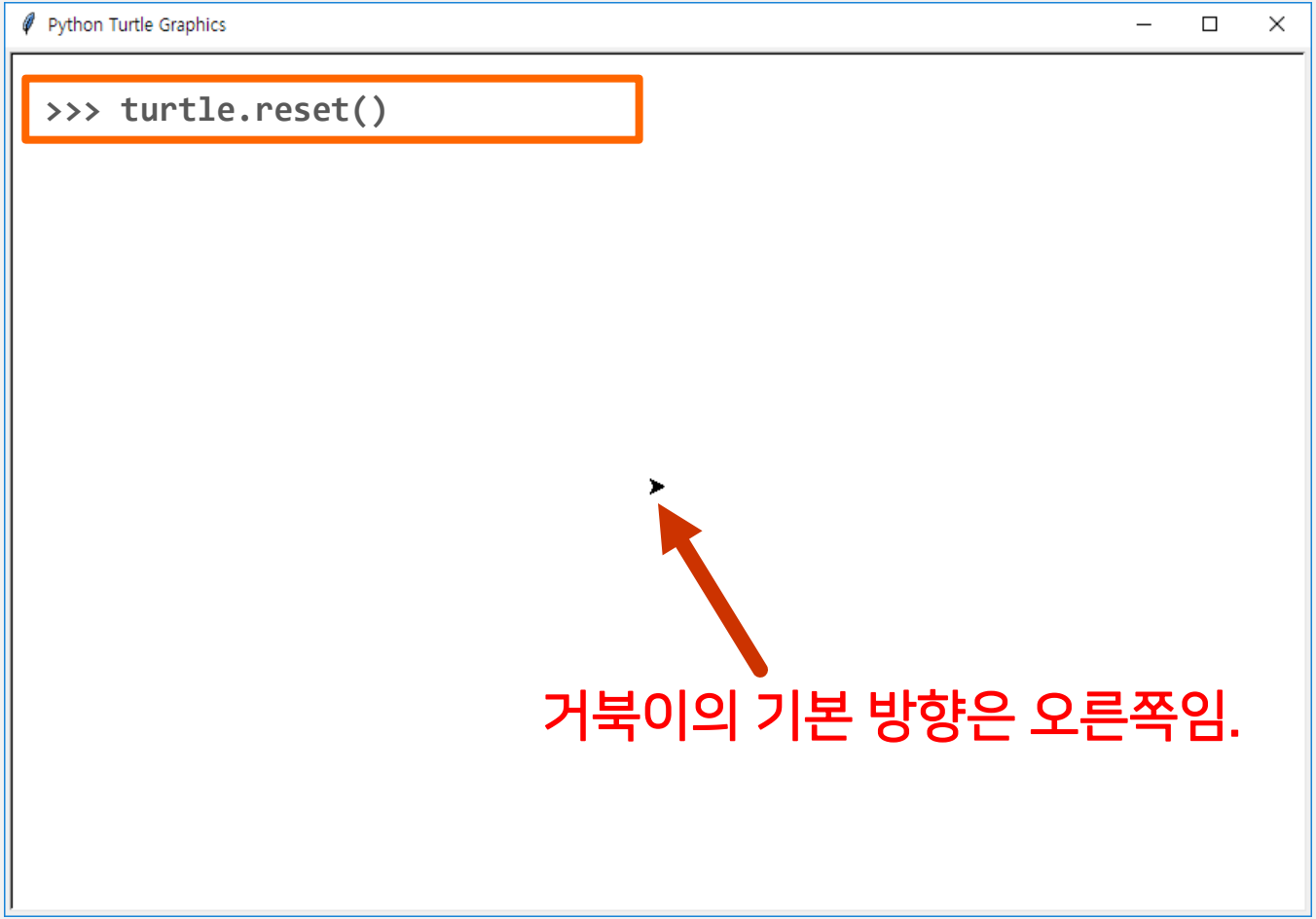
```
import turtle

turtle.forward(100)
```

turtle 이 갖고 있는 기능(함수, function)
을 이용하여, 그림을 그린다.

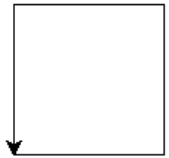
Python Turtle Graphics

```
>>> import turtle
>>> turtle.forward(100)
```



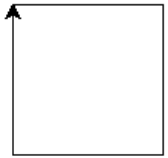
Python Turtle Graphics

```
>>> turtle.forward(100)
>>> turtle.left(90)
>>> turtle.forward(100)
>>> turtle.left(90)
>>> turtle.forward(100)
>>> turtle.left(90)
>>> turtle.forward(100)
```



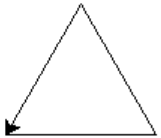
Python Turtle Graphics

```
>>> turtle.reset()
>>> turtle.forward(100)
>>> turtle.right(90)
>>> turtle.forward(100)
>>> turtle.right(90)
>>> turtle.forward(100)
>>> turtle.right(90)
>>> turtle.forward(100)
```

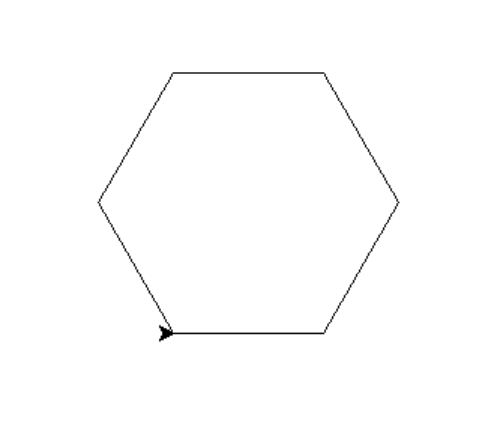


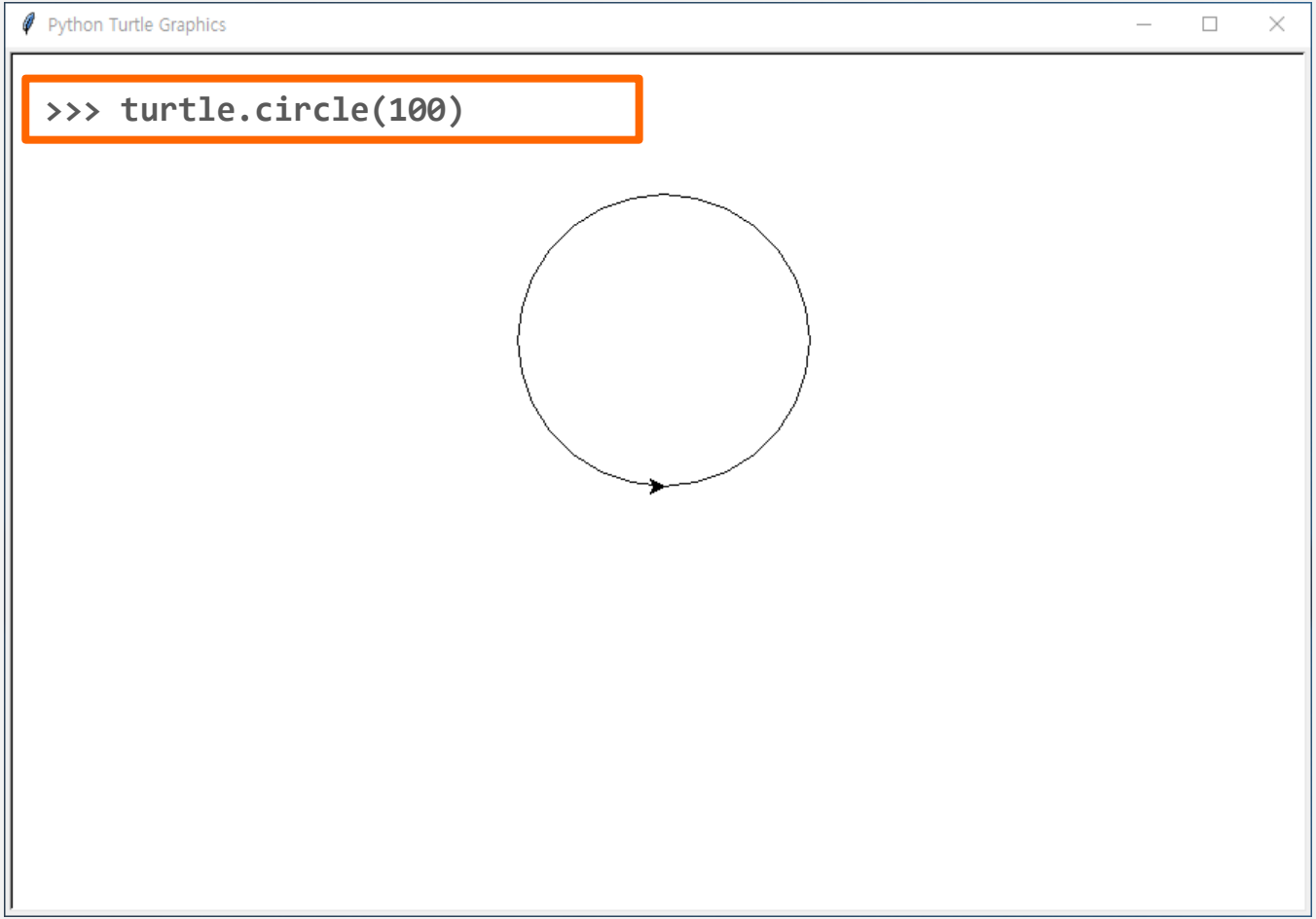
Python Turtle Graphics

```
>>> turtle.forward(100)
>>> turtle.left(120)
>>> turtle.forward(100)
>>> turtle.left(120)
>>> turtle.forward(100)
```



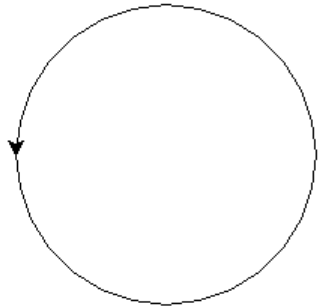
퀴즈 #1: 정육각형을 그려보자 !





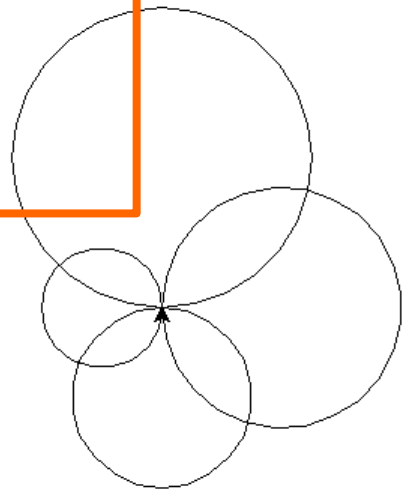
Python Turtle Graphics

```
>>> turtle.right(90)
>>> turtle.circle(100)
```



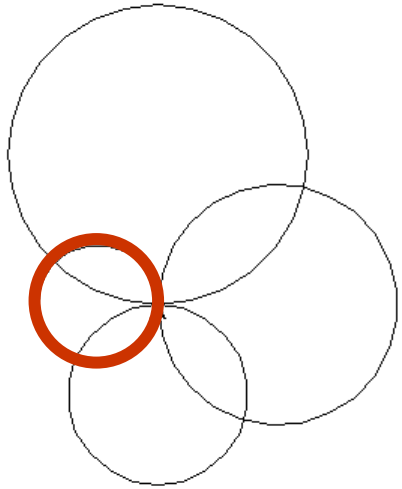
Python Turtle Graphics

```
>>> turtle.circle(100)
>>> turtle.right(90)
>>> turtle.circle(80)
>>> turtle.right(90)
>>> turtle.circle(60)
>>> turtle.right(90)
>>> turtle.circle(40)
```



Python Turtle Graphics

```
>>> turtle.updo()
>>> turtle.undo()
```



마지막에 그렸던 원이 없어짐.

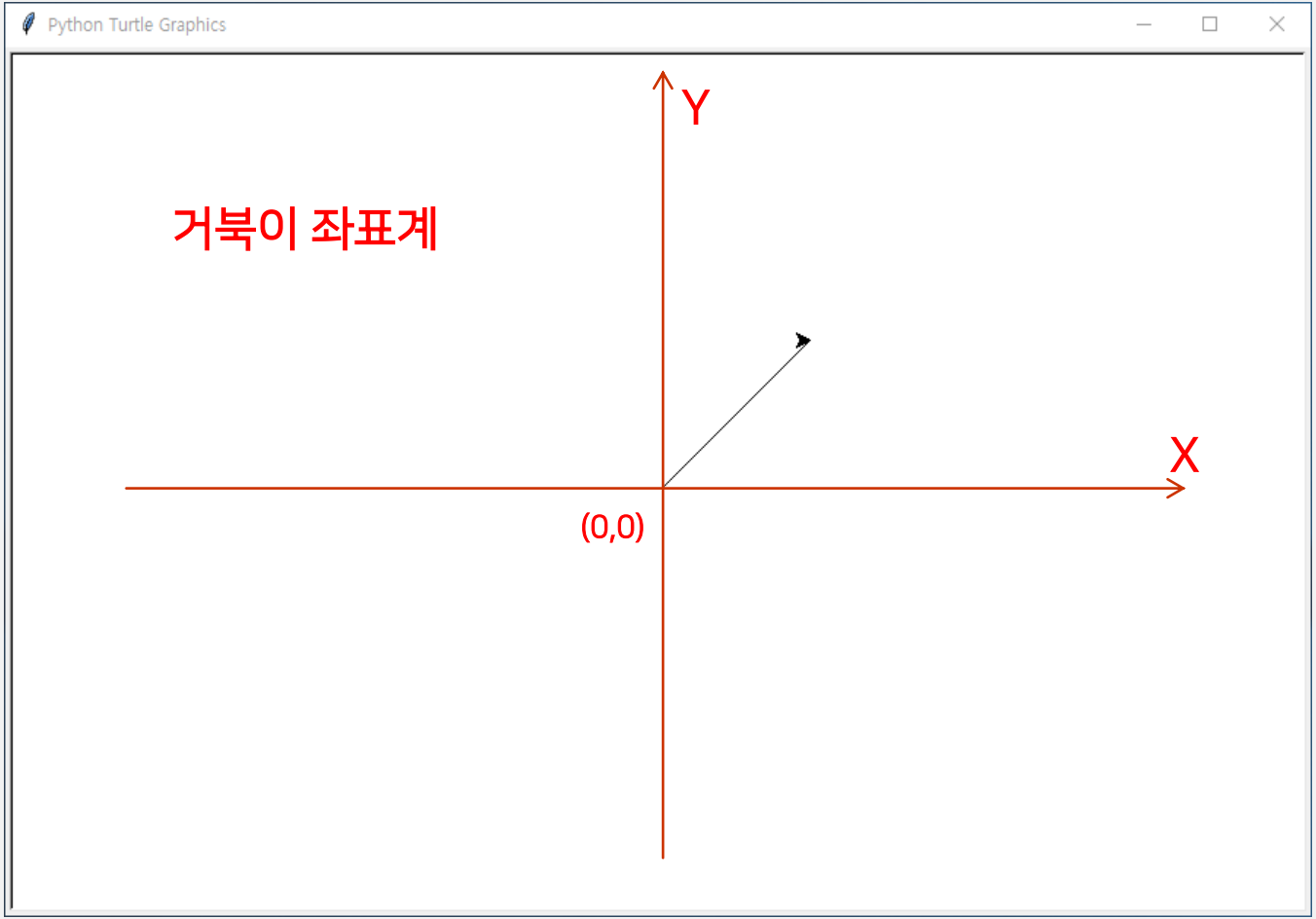
이전 상태로 되돌아감.

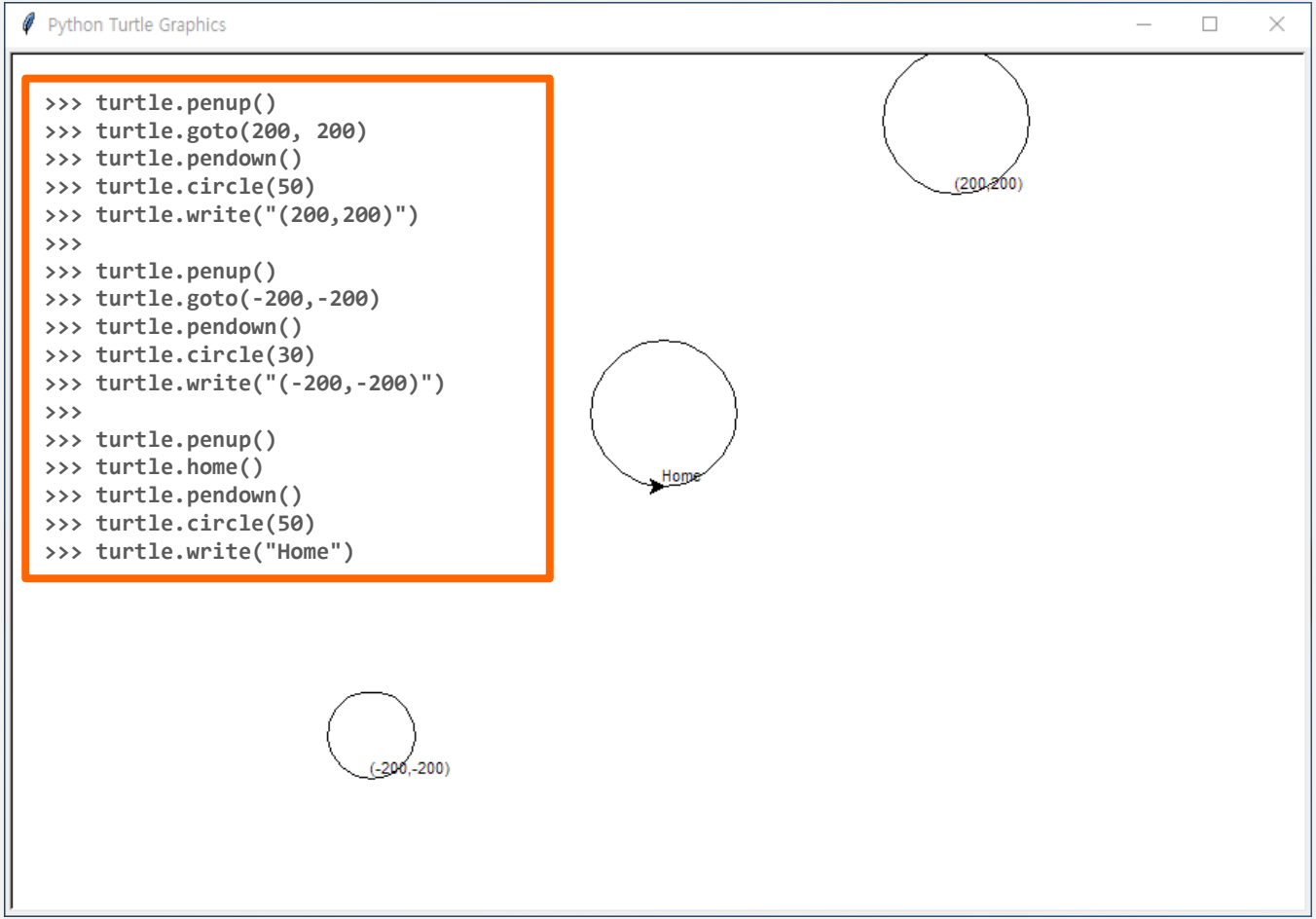
Python Turtle Graphics

```
>>> turtle.reset()
>>> turtle.goto(100, 100)
```

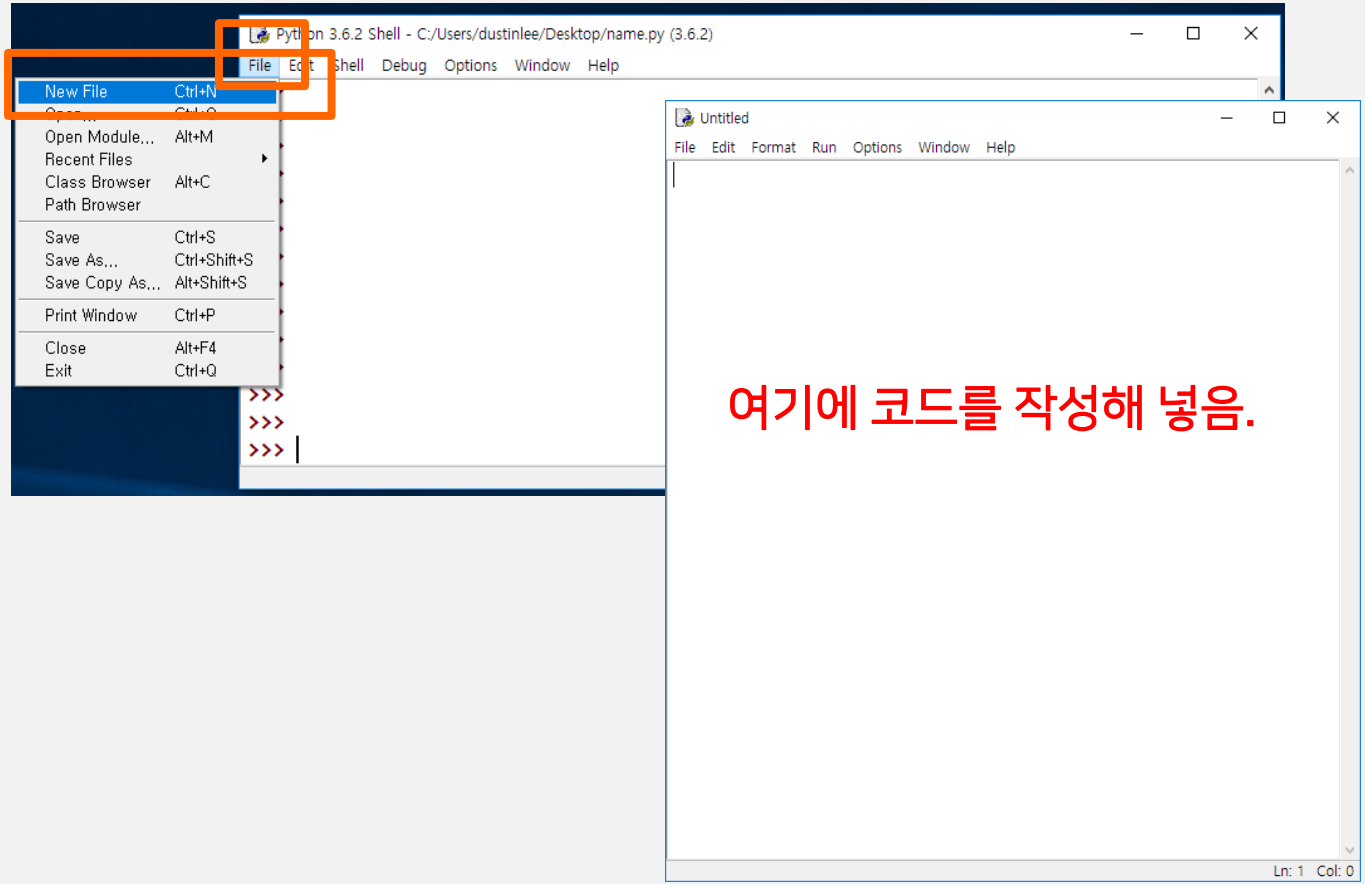
(100,100) 으로 이동한다.

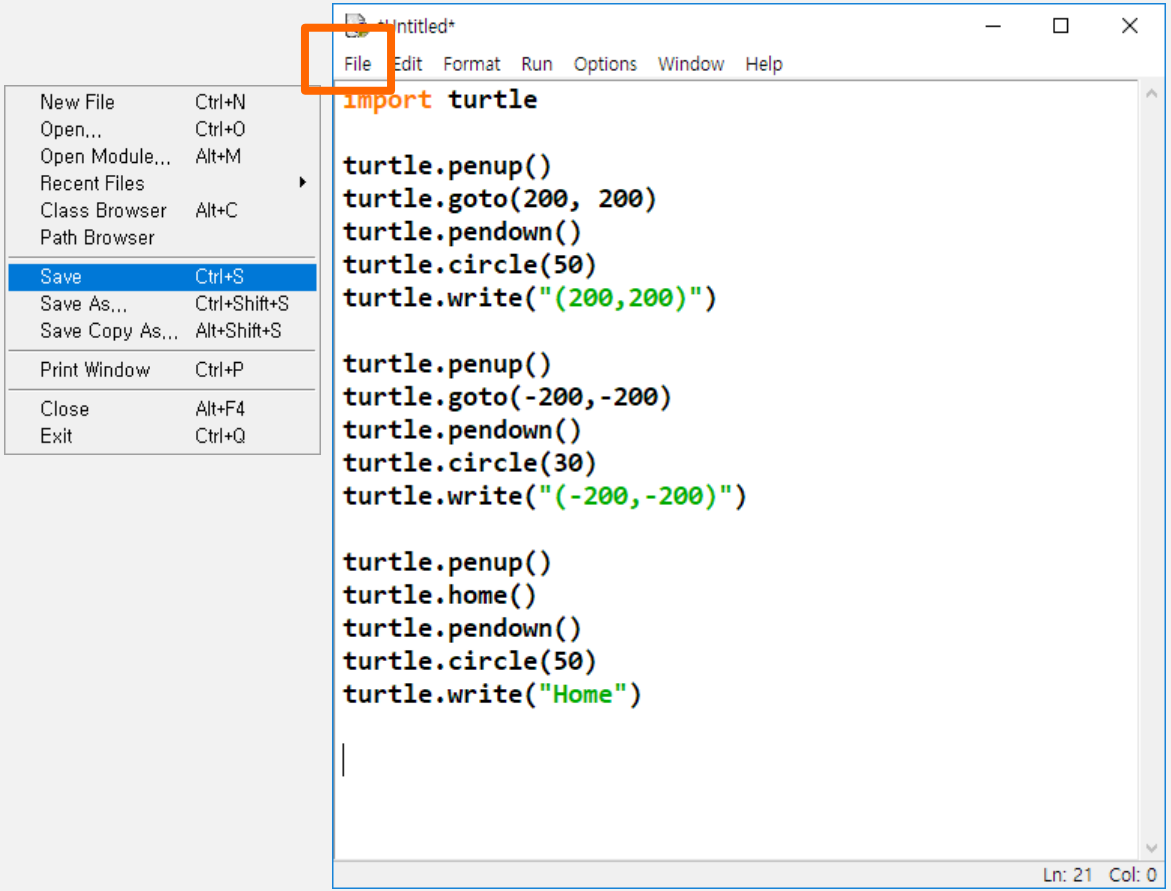
거북이의 머리방향은 변함없이 여전히 오른쪽 방향.

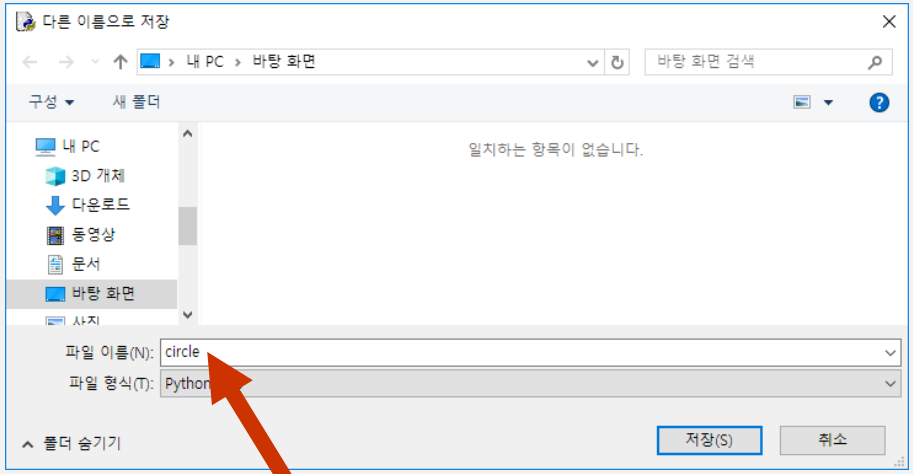




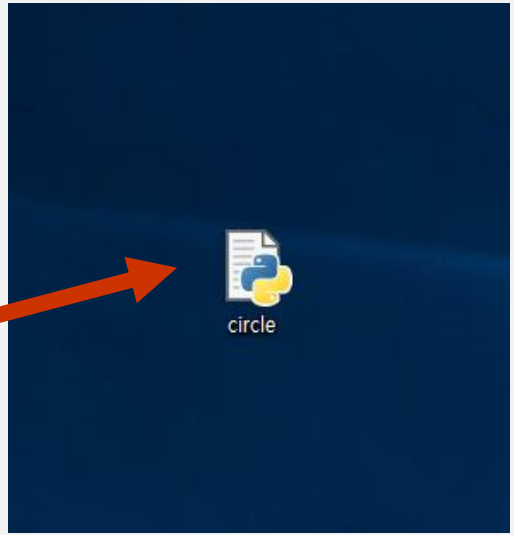
프로그램을 파일로 만들어서 저장







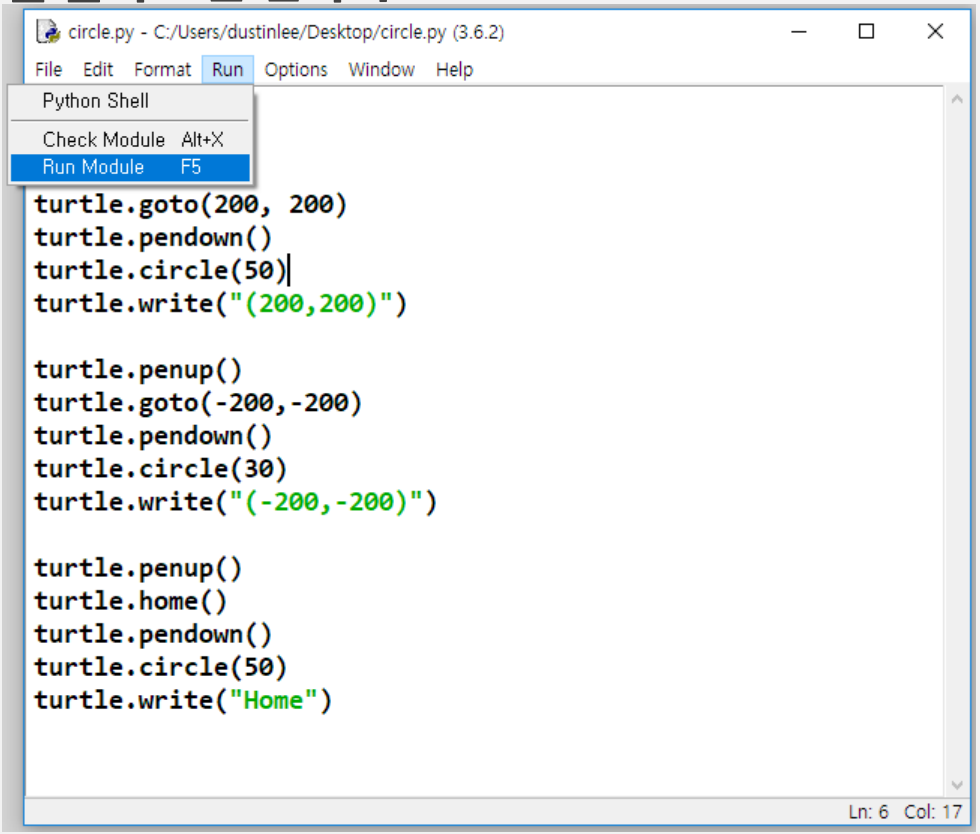
circle 이라는 이름으로 바탕 화면에 저장.



바탕화면에 circle.py 라는 이름의 파일이 생성됨.

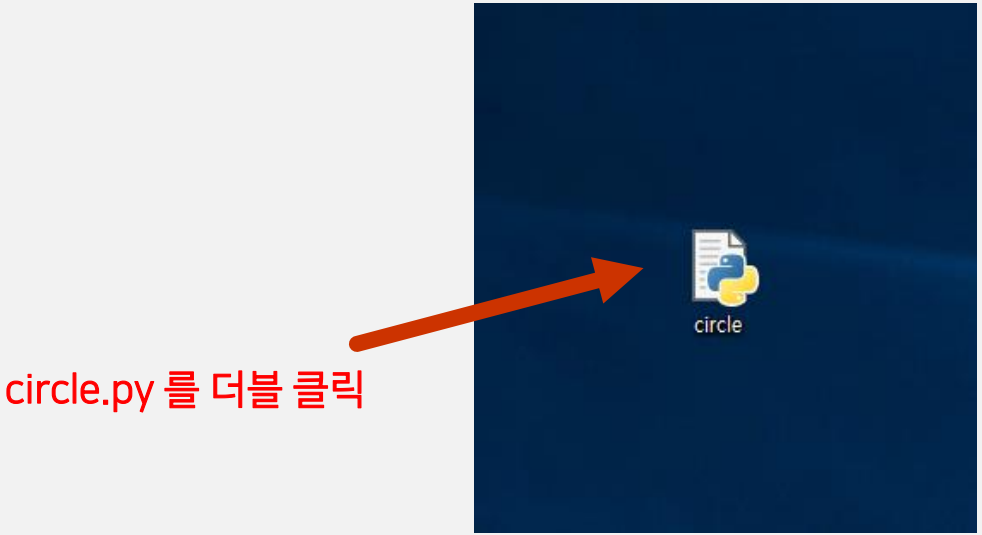
프로그램 실행 방법 #1

- Run→Run Module 을 클릭 또는 단축기 F5



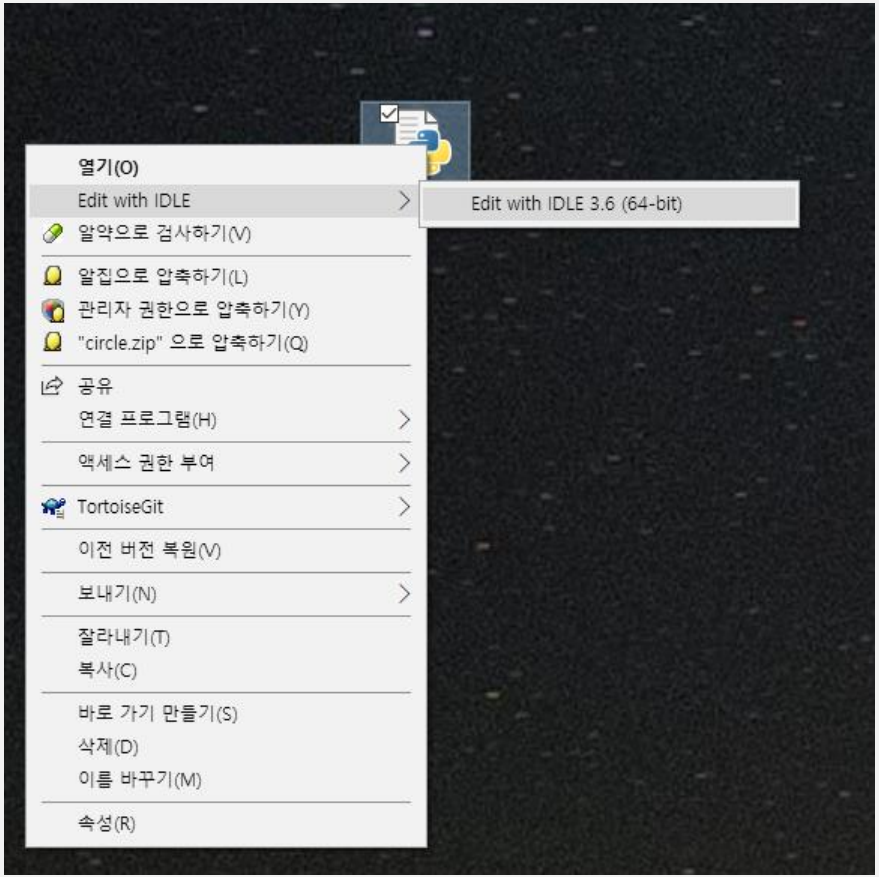
프로그램 실행 방법 #2

- 프로그램 파일을 더블 클릭하여 실행.
- 문제점은?

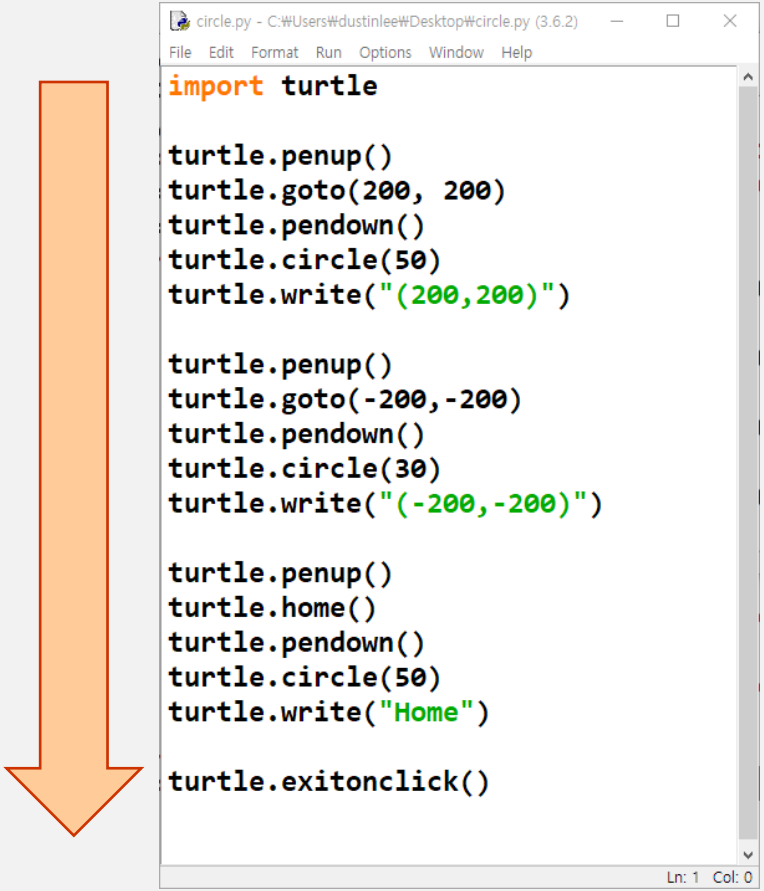


코드 마지막 부분에 exitonclick() 추가.

마우스 오른쪽 버튼을 클릭하면, 소스코드를 직접 편집 가능.

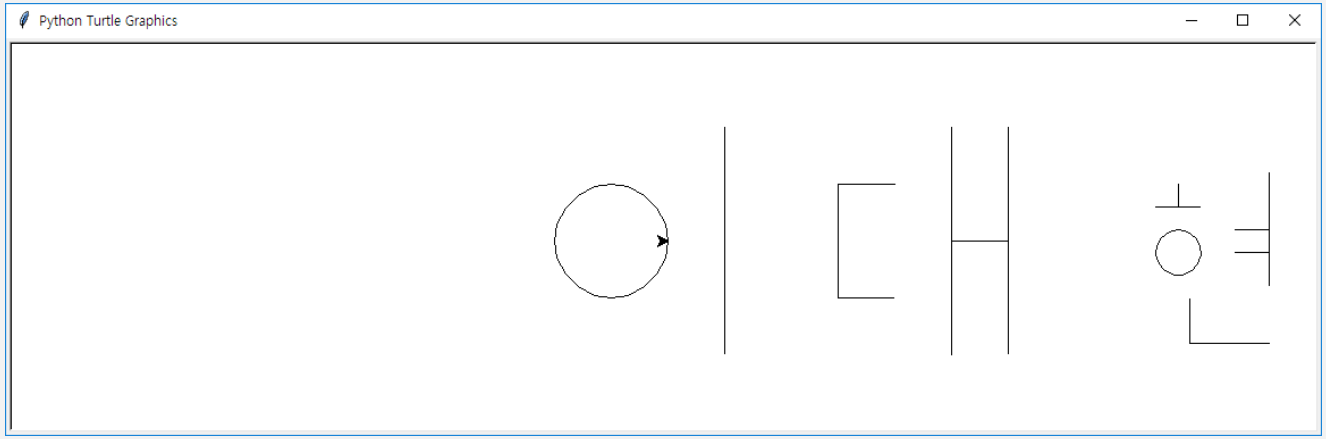


파이썬 문장은 위에서부터 아래로 차례로 실행



퀴즈 #2. 터틀로 자기 이름 그리기

- name.py 로 저장하고, 더블클릭해서 실행.



- 단톡방에 스크린샷 제출