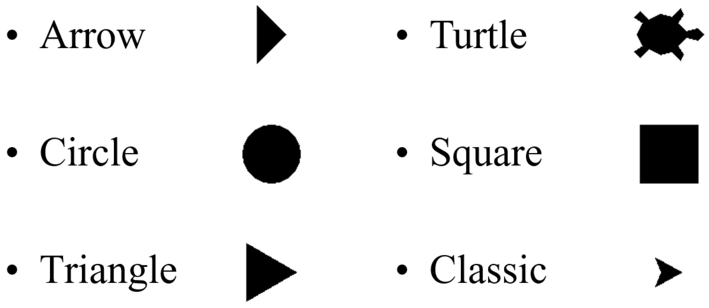
Turtle - shape

- `turtle.shape("classic")`

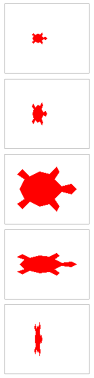
  ```
  turtle.addshape("ninja.gif")
  turtle.shape("ninja.gif")
  ```



- Arrow
- Circle
- Triangle
- Turtle
- Square
- Classic

- `turtle.shapesize(width_ratio, length ratio)`
  - `width_ratio = X` means the new width is X * original width

- Original turtle shape
- `turtle.shapesize(2, 1)`
- `turtle.shapesize(4, 4)`
- `turtle.shapesize(2, 4)`
- `turtle.shapesize(3, 0.5)`



Turtle – event handling

```
import turtle

def drawcircle(x, y):
    print(x,y)
    turtle.up()
    turtle.goto(0, -180)
    turtle.down()
    turtle.circle(250)

turtle.onclick( drawcircle )
turtle.done() # must!
```

When turtle is clicked, this function is called. The x and y where the turtle was clicked is passed to this function

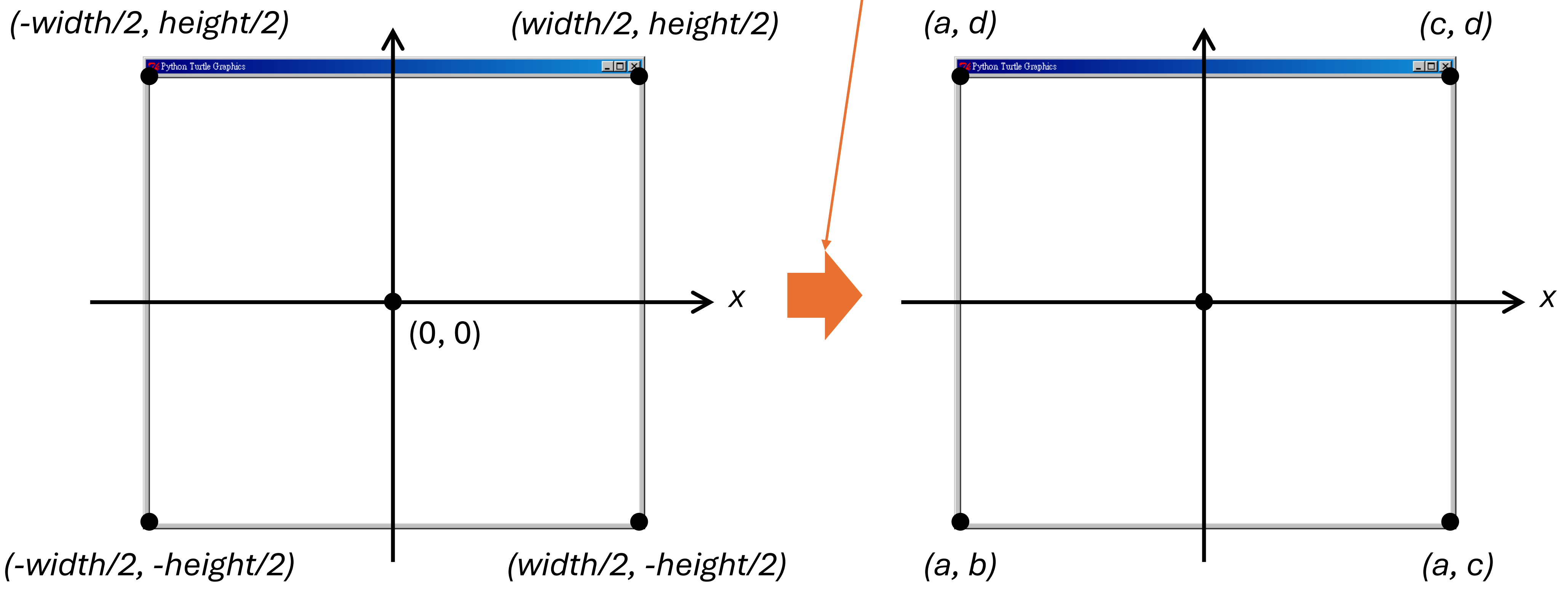
The `drawcircle` *function will be executed when the turtle is clicked on*

Turtle – event handling

- **Event when we click/drag the turtle**
- `turtle.onclick( drawcircle )`
- `turtle.ondrag( turtle.goto )`
- **Event when we click screen other than turtle**
- `turtle.onscreenclick( myfunction )`
- **Event when we click keyboard**
- `turtle.onkeypress( myfunction , "a")`
  - Remember `turtle.listen()`
  - `"a" can be "Up" "Down" "Left" "Right"`

Coordinate systems

```
turtle.setworldcoordinates(a,b,c,d)
a:min x, b:min y, c:max x, d:max y
```



Turtle Objects

- `newTurtle = turtle.Turtle()` will create a new turtle
    - `newTurtle` has the same function as the previous one
    - But different properties.
- `result = thisTurtle.xcor()` Get the x position value
- `result = thisTurtle.ycor()` Get the y position value
- `result = thisTurtle.position()` Get both x and y
- `result = thisTurtle.heading()` Get the turtle angle
- `result = thisTurtle.fillcolor()` Get the fill color
- `result = thisTurtle.speed()` Get the speed
- `result = thisTurtle.shape()` Get the shape