

Using Python on Windows:

1. Write the program in text editor such as notepad and save it with the extension .py, such as *circles.py*, e.g.:

```
import turtle

def twoCircles():
    t = turtle.Turtle()

    # Draw the X and Y axes

    t.up() # don't draw yet

    t.goto(0, 200)
    t.down()
    t.right(90)
    t.forward(400)

    t.up()
    t.goto (-200, 0)
    t.down()
    t.left(90)
    t.forward(400)

    # Draw two circles, first at the origin

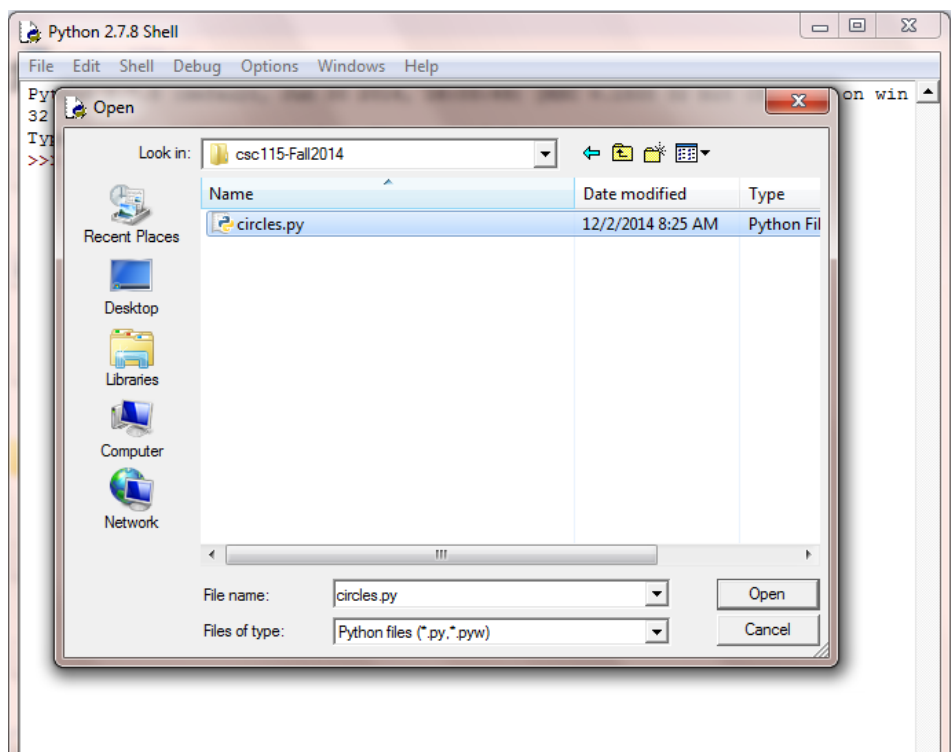
    t.up()
    t.goto(0, -100)
    t.down()
    t.circle(100)

    # Draw the second of the two circles

    t.up()
    t.goto(0, 100)

    t.down()
    t.circle(100)
    return 0
```

2. Start the Python GUI environment on Windows and select a module to run via the *File Menu*:



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3. Run the module (via *Run Module* on the *Run* menu), which imports it into the Python environment:

```
Python 2.7.8: circles.py - C:\Users\wpb\CSUDH\csc115-Fall2014\...
File Edit Format Run Options Windows Help
import turtle

def twoCircles():
    t = turtle.Turtle()

    # Draw the X and Y axes

    t.up() # don't draw yet

    t.goto(0, 200)
    t.down()
    t.right(90)
    t.forward(400)

    t.up()
    t.goto(-200, 0)
    t.down()
    t.left(90)
    t.forward(400)

    # Draw two circles, first at the origin

    t.up()
    t.goto(0, -100)
    t.down()
    t.circle(100)

    # Draw the second of the two circles

    t.up()
    t.goto(0, 100)

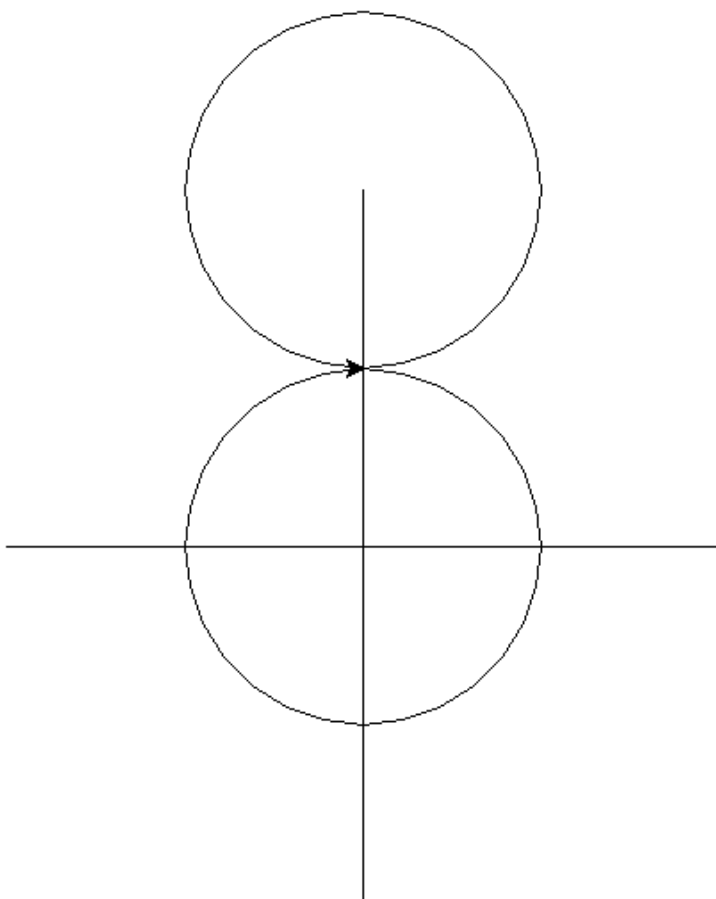
    t.down()
    t.circle(100)
    return 0
Ln: 1 Col: 0
```

```
Python 2.7.8: circles.py - C:\Users\wpb\CSUDH\csc115-Fall2014\...
File Edit Format Run Options Windows Help
import turtle
def twoCircles
t = tu
# Draw the X and Y axes
t.up() # don't draw yet
t.goto(0, 200)
t.down()
t.right(90)
t.forward(400)
t.up()
t.goto(-200, 0)
t.down()
t.left(90)
t.forward(400)
# Draw two circles, first at the origin
t.up()
t.goto(0, -100)
t.down()
t.circle(100)
# Draw the second of the two circles
t.up()
t.goto(0, 100)
t.down()
t.circle(100)
return 0
Ln: 1 Col: 0
```

- 4. Sample Run: "Run"-ning the module will incorporate it into the Python environment
  - a. In the *Python Shell* window, type *import circles* followed by a carriage return.
  - b. Next (to actually run the program) type *circles.twoCircles()*:

```
Python 2.7.8 Shell
File Edit Shell Debug Options Windows Help
Python 2.7.8 (default, Jun 30 2014, 16:03:49) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ===== RESTART =====
>>>
>>> import circles
>>> circles.twoCircles()
0
Ln: 25 Col: 4
```

5. Result:



Notes:

- 1. On UNIX systems, such as a Mac or Linux, Python is easier to use
- 2. We are using Python 2.x in class; Python 3.x should be used when possible
- 3. Moving a text file from one system to another, e.g. PC to Mac or Linux is easy in Python – just email the text file