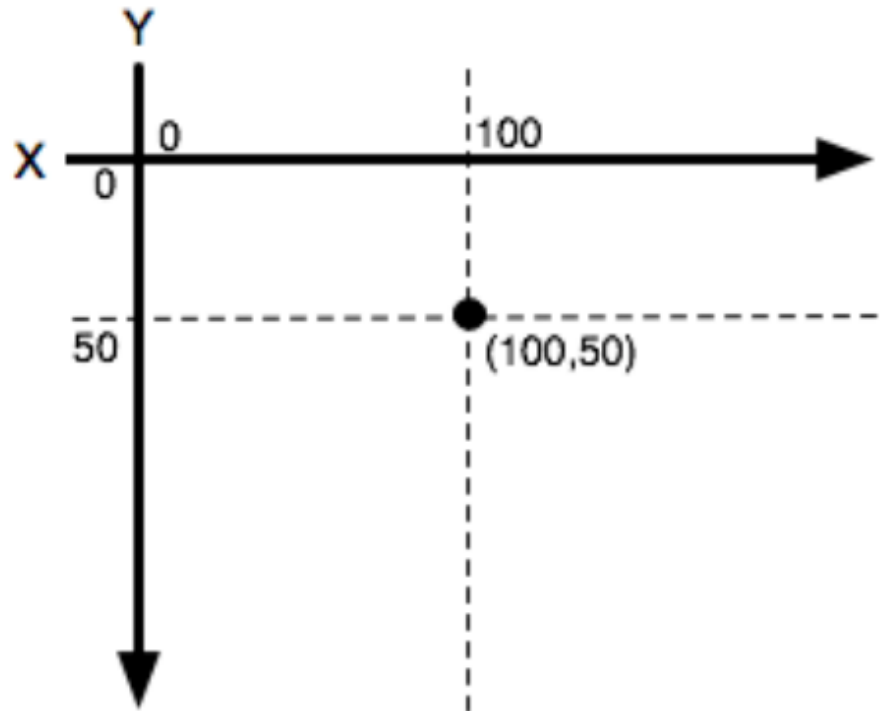


Using graphics in Python

- Many programming languages include a ***library*** for computer graphics.
 - A library is a pre-written collection of functions usually centered around a theme (graphics, networking, math, sound, etc)
 - Using libraries (rather than starting from scratch) enables you to write programs faster.
 - Libraries are centered around functions because we know functions are abstractions of algorithms.

The "canvas"

- All graphics in Python are drawn in a separate window called the *canvas*.
- The canvas is laid out similarly to the Cartesian plane, but with a flipped y-axis.

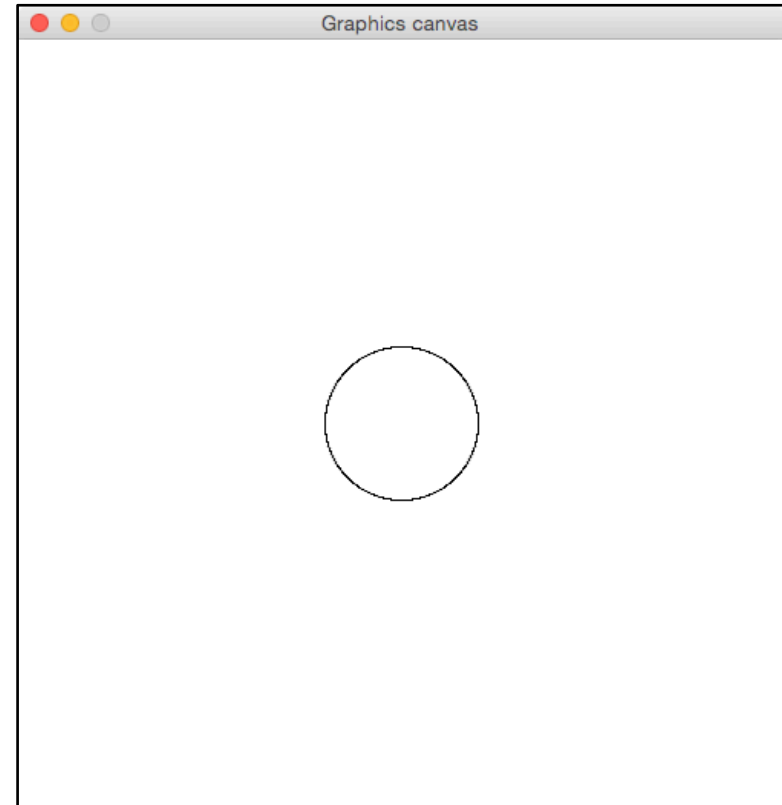


- Go to the class webpage (just google Phil Kirlin).
- Download the files **cs1graphics.py** and **simplegraphics.py**. Save each file into the same folder where you store your Python projects. This is important!
 - Do this by right-clicking each file and choosing "Save Link As" or something similar.
- Make a new Python file and type in the following program:

```
from simplegraphics import *

def main():
    open_canvas(500, 500)
    draw_circle(250, 250, 50)
    close_canvas_after_click()

main()
```



- If you see the picture to the right, you're all set! (Click the window to close it.)
- Experiment with the other functions on the handout.
- Try writing programs to draw the following pictures:
 - a landscape (mountains, trees, houses, a cityscape, or something like that)
 - a self-portrait
 - a depiction of the solar system
 - the Mona Lisa
 - something else of your choice