

COMP 141

intro to simplegraphics



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Announcements

Reminders:

Program 2 – due tomorrow night by 11:55pm

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Tricky Example

```
def mystery(x, z, y):
    print(z, y-x)

def main():
    x = 9
    y = 2
    z = 5
    mystery(z, y, x)
    mystery(y, x, z)
    mystery(x + z, y - x, y)

main()
```

3

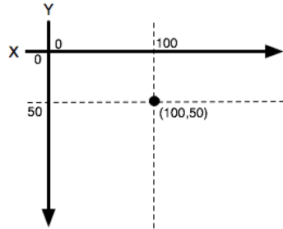
Using Graphics in Python

- 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.

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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.



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SimpleGraphics

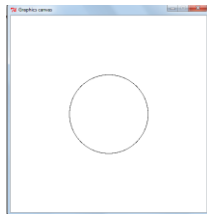
- We learned about Turtle
 - Many other graphics libraries available
- Introducing simplegraphics
 - Not a built-in library
 - You need to have 2 files in the same folder as your program
 - simplegraphics.py
 - cs1graphics.py

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Your First Graphics Program

- Go to my Box.com code directory and copy **simplegraphics.py** and **cs1graphics.py** files into your own folder (same folder you save the rest of your python files).
- Make a new Python file and type in the following program.
- If you see the picture on the right, you're all set.
- Experiment with other functions on the handout.

```
from simplegraphics import *
def main():
    open_canvas(500, 500)
    draw_circle(250, 250, 100)
    close_canvas_after_click()
main()
```



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Pair Programming Lab

- Pair programming is a technique where two programmers work at a single computer to write code.
 - Person A is called the “driver,” and is the person responsible for typing the code.
 - Person B is called the “navigator,” and is responsible for reviewing each line of code as it is typed in, looking for syntax errors, other bugs, or ways to improve the code to make it clearer, simpler, or more efficient.
- Both people should agree on the general structure of the algorithm they're going to use.
- The two people work together as equals, and switch roles frequently.