CSC 111:
Intro to Computer Science through Programming

Spring 2017
Prof. Sara Mathieson
+ Homework 5 due Tues after spring break
+ Lab this week will be like TA hours (optional time to ask questions and work on homework/studying)
+ Transcripts from now on: only successful output at the end
+ Office hours tomorrow 11-1pm in Ford 355
Outline: 3/8

- Homework 3 examples
- Idea of Object Oriented Programming
- Begin: Graphics
- While loops (probably Friday)
Homework 3 Examples (demo)
(selected by Ananya)
Begin: Graphics
Examples from last year

Isabella Zhu

Casey Armanetti
Object Oriented programming (OOP)

Objects have:

* Data
* Methods
* Type

Important: objects belong to a class

Point is the class, and p is an object which is an instance of that class

```python
>>> s = "boolean"
>>> s.replace("b","B")
'Boolean'
>>> type(s)
<class 'str'>

>>> p = Point(100,200)
>>> p.setFill("red")
>>> type(p)
<class 'graphics.Point'>
```
Starter Graphics program

```python
from graphics import *

def main():
    win = GraphWin("My Circle", 100, 100)
    c = Circle(Point(50,50), 10)
    c.draw(win)
    win.getMouse() # Pause to view result
    win.close() # Close window when done

main()
```

1) Download graphics.py from the book website: http://mcsp.wartburg.edu/zelle/python/
2) Place graphics.py in the same folder as your code
3) Open graphics.py in IDLE
4) Copy over the starter program to a new file
5) Run the code and see the circle!
6) TODO: modify the code so the window is bigger
7) TODO: make the circle bigger but still in the center
8) TODO: make the background and the circle a different color
End goal: create a “pumpkin”

Color names:
http://wiki.tcl.tk/37701

Extra color methods:
win.setBackground(“green”)  
c.setFill(“red”)