



15-112
Lecture 2

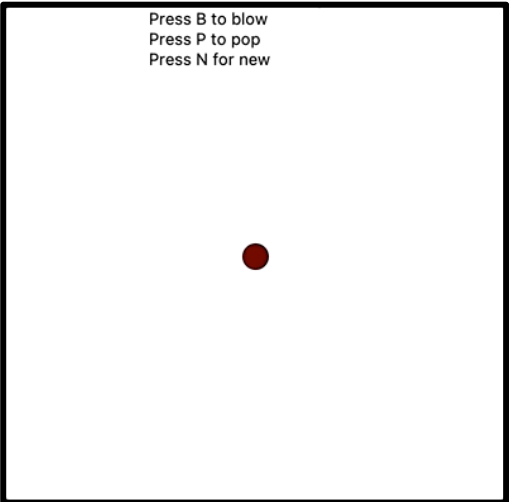
112 Graphics

Instructor: Pat Virtue

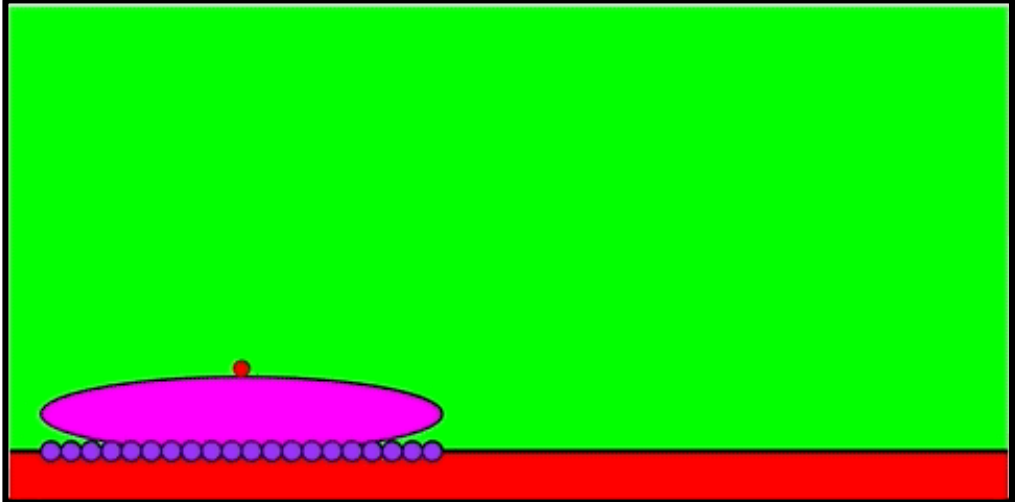
Graphics (CS Academy)

Coding with Pat's Minions

Grace



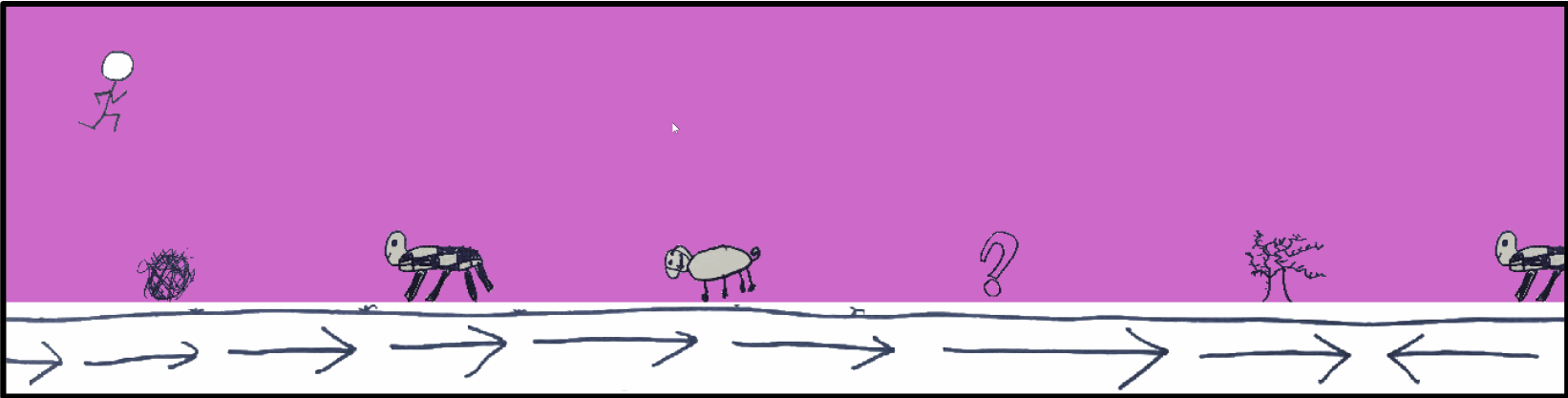
Elliot



Jay

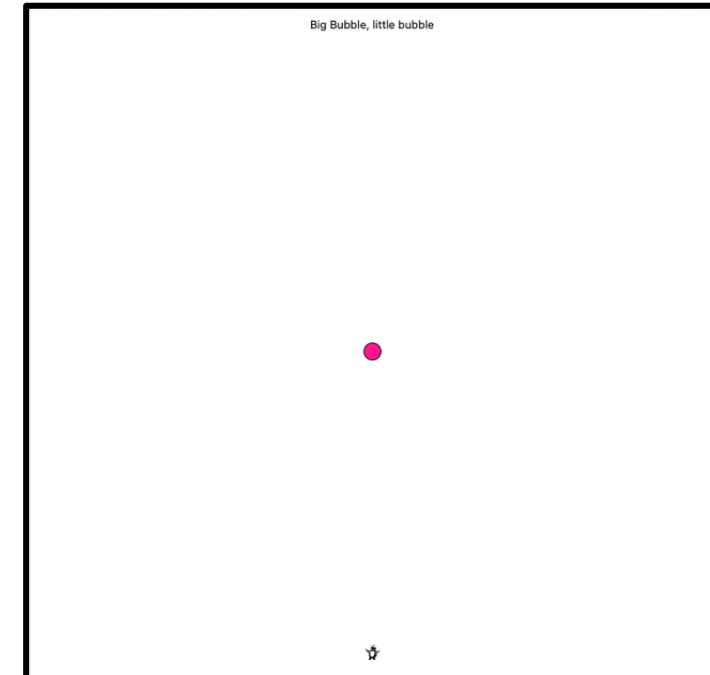
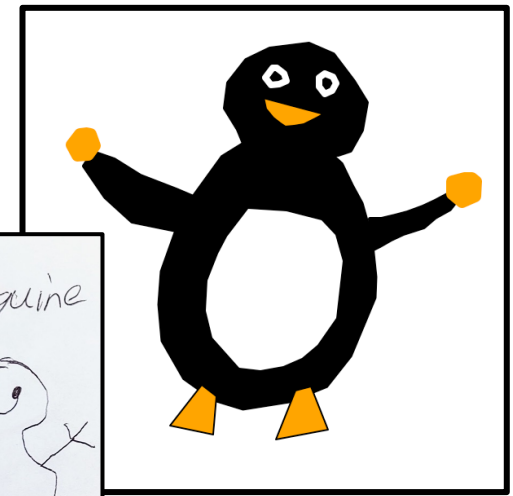
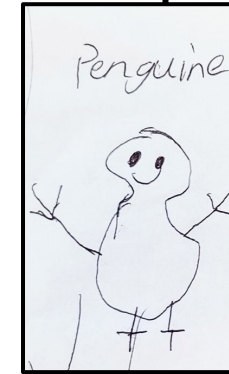
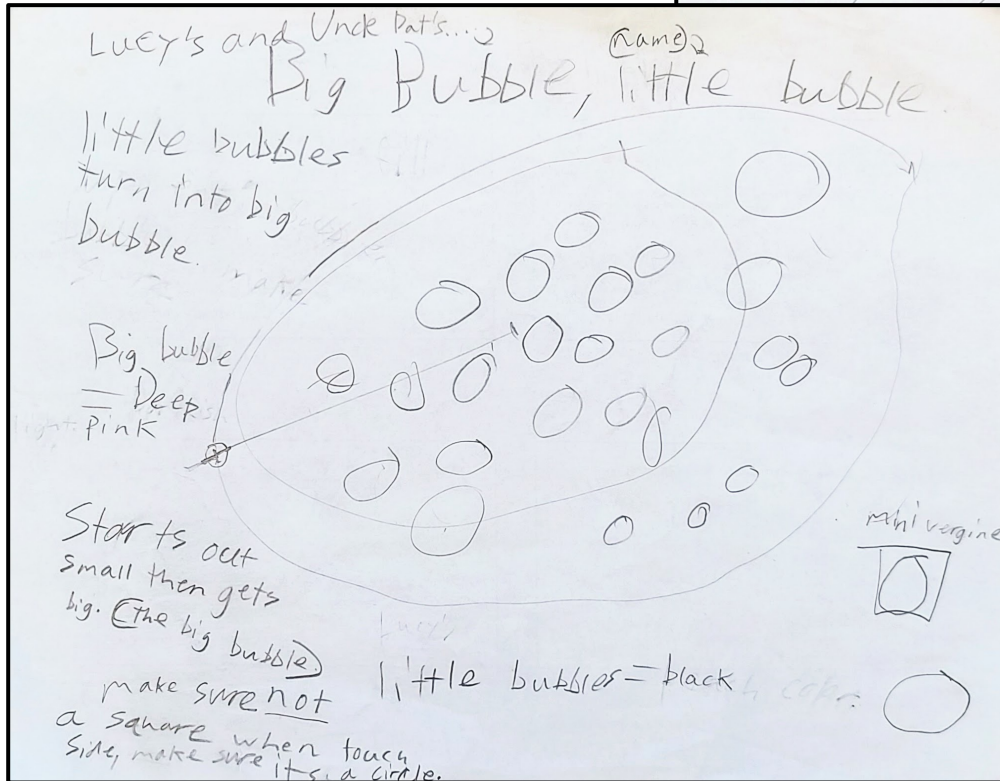
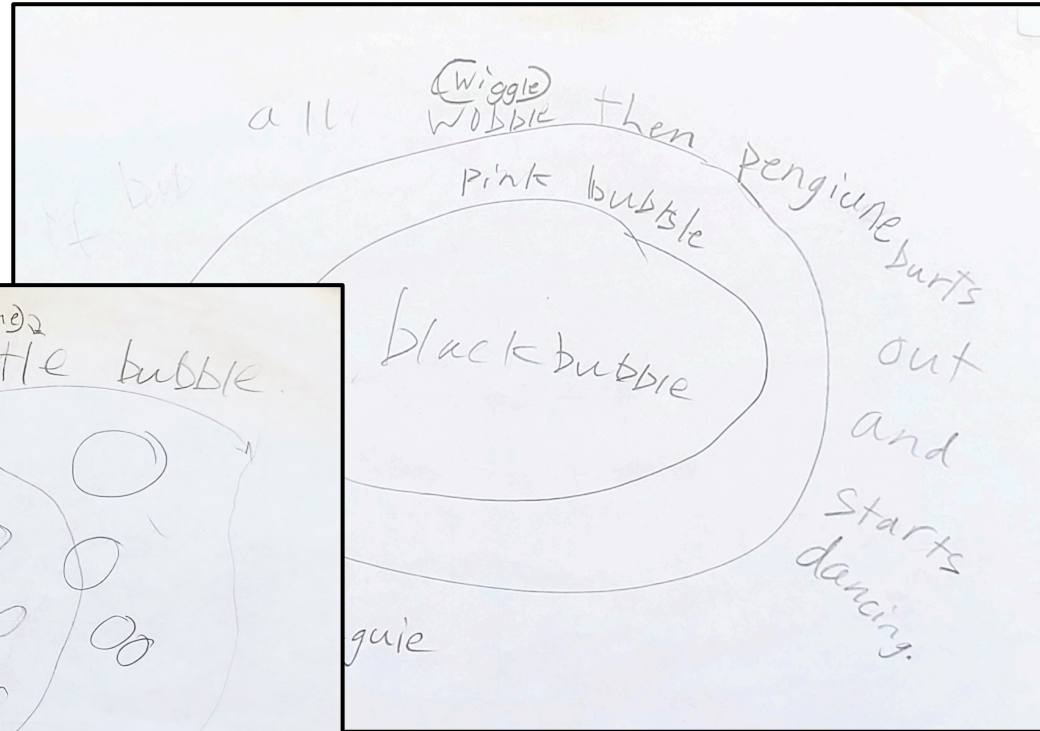


Ellie, Ryan, Lucy, and Uncle Pat



Coding with Pat's Minions

Lucy (and Uncle Pat just trying to keep up)





helloGraphics.py

Stop



CPCS Mode

Run



Print

Code History

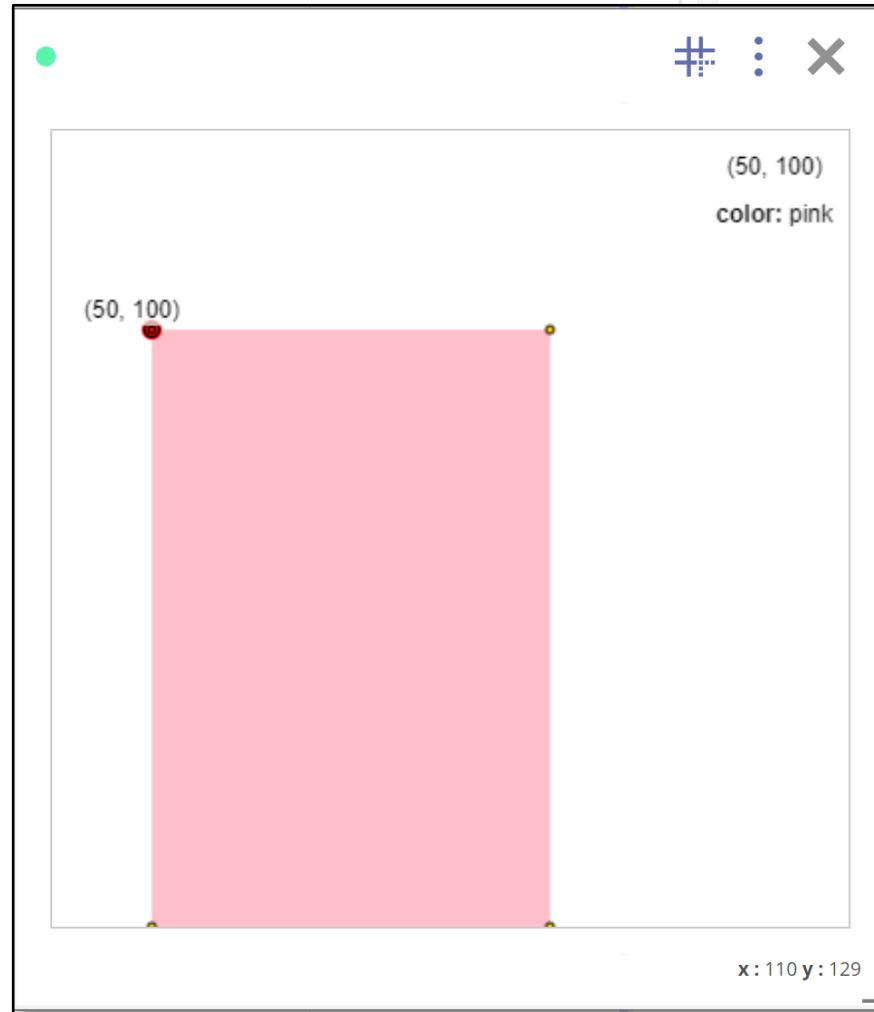


Saved

```
1 from cmu_graphics import *
2
3 def redrawAll(app):
4     drawRect(50, 100, 200, 300, fill='pink')
5
6 def main():
7     print('Hello pink square!')
8     runApp()
9
10 main()
11
```

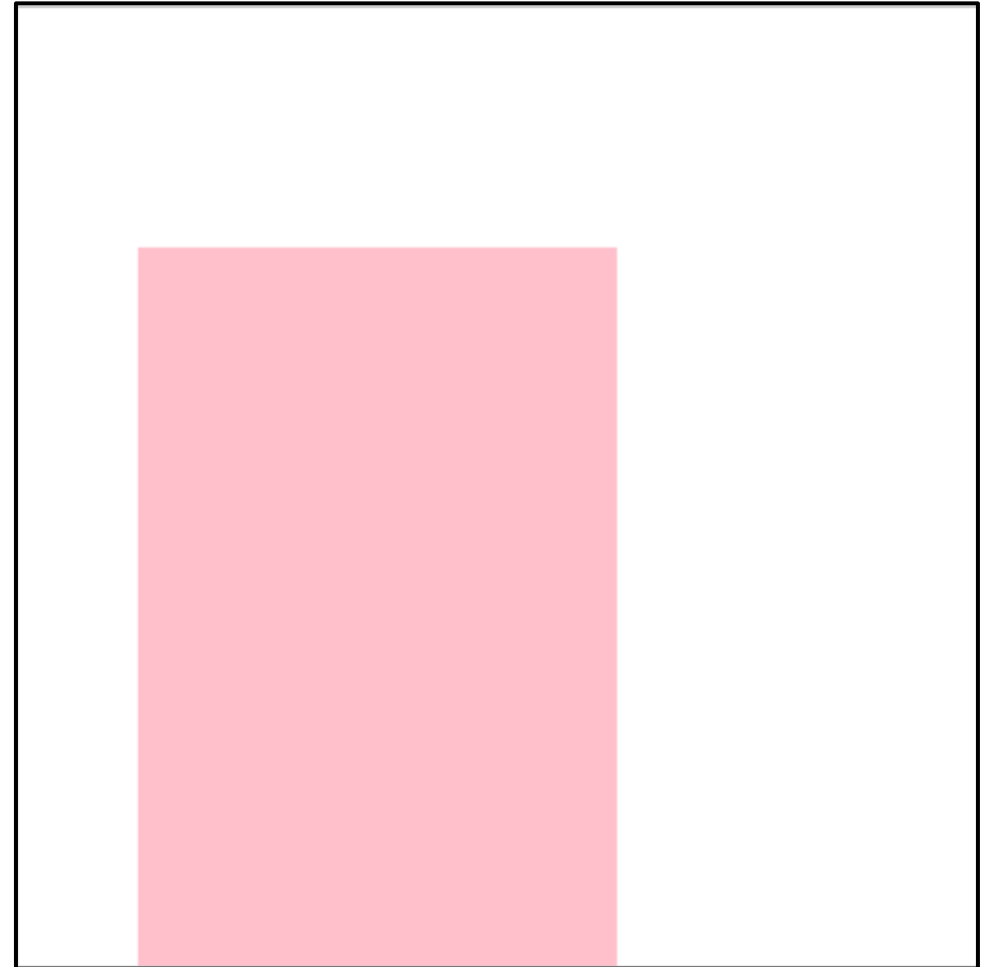
Hello pink square!

>>>



Canvas and Coordinates for Graphics

```
from cmu_graphics import *  
  
def redrawAll(app):  
    drawRect(50, 100, 200, 300,  
            fill='pink')  
  
def main():  
    runApp()  
  
main()
```



Rectangles, Ovals, Lines, and Labels

```
drawRect(x0, y0, width, height)
```

```
drawOval(centerX, centerY, width, height)
```

```
drawLine(x0, y0, x1, y1)
```

```
drawLabel(text, centerX, centerY)
```

Rectangles, Ovals, Lines, and Labels

```
drawRect(x0, y0, width, height, fill='black', opacity=100,  
         border=None, borderWidth=2, rotateAngle=0))
```

```
drawOval(centerX, centerY, width, height, fill='black', opacity=100,  
         border=None, borderWidth=2, rotateAngle=0)
```

```
drawLine(x0, y0, x1, y1, fill='black', lineWidth=2, opacity=100,  
         dashes=False, arrowStart=False, arrowEnd=False)
```

```
drawLabel(text, centerX, centerY, fill='black', opacity=100,  
         border=None, borderWidth=2, rotateAngle=0,  
         size=12, font='arial', bold=False, italic=False, align='center')
```