

GUI Assignment #5 - Bouncing Ball

```
from tkinter import *
import time
# main
root=Tk()
root.title("Moving Objects")
root.geometry("800x600+0+0")

c=Canvas(root,width=700,height=500,bg="black")
c.place(x=10,y=10)

# intial location, direction and speed for blue oval on canvas

x=200
y=200

xdirection = 1
ydirection = 1

speed = 2

moving = True

# Create oval object
point= c.create_oval(x,y,x+20,y+20,fill="blue")

while moving:

    x+= xdirection * speed # move blue oval in x direction
    y+= ydirection * speed # move blue oval in y direction

    # check for right side boundary

    if x>700:
        xdirection =-1

    # check for bottom boundary
    if y>500:
        ydirection = -1

    # now do upper and right left wall

    c.moveto(point,x,y) # move point to new location

    time.sleep(.01) # delay
    root.update() # redraw canvas

root.mainloop()
```

Assignment #5

- 1. Add code to make the ball bounce off the top and left walls.**
- 2. Add a transparent .png and bounce this image in the reverse direction to the ball at a different speed.**
- 3. Add another object that moves differently than the objects above.**
- 4. Add a background image to the canvas.**
- 5. Add two improvements to this program.**