

Name: _____ Section: ____ Andrew Id: _____

15-110 Spring 2019 Quiz2

* **30 minutes, No calculators, no notes, no books, no computers, no phones**

* 80 pts (16 pts each part) (other 20 pts are from the mini-quiz)

* Do not assume the size of the canvas. Use `data.width` and `data.height`.

* Make reasonable assumptions about anything not explicitly stated here.

* To save time, you may write `d.foo` instead of `data.foo`, and `e.foo` instead of `event.foo`

* For full credit, use conditionals when appropriate, and only draw shapes that are actually visible.

1. Starting from our starter code, write the functions required do the following:
 - a. A red circle of radius 30 bounces repeatedly up-and-down along the right edge of the canvas.
 - b. If the mouse is pressed inside the red circle, everything pauses, and remains paused until the user presses 'g'.
 - c. If the mouse is pressed outside the red circle when events are not paused, then a blue 20x20 square is centered on the mouse, moves with the mouse while it is dragged, and disappears when it is released.
 - d. A counter in the middle of the canvas increases by 1, and keeps going even when everything else is paused.
 - e. If the user ever moves or drags the mouse within 5 pixels of the left edge of the canvas, the only thing drawn from then on is 'Game Over!'

2. Bonus [2.5 pts]: Sketch a picture of what a 400x400 canvas looks like after the following runs for a while:
- ```
def init(d): d.a = 0; d.b=0; d.c=100; d.d=1
def timerFired(d): d.a += d.c/d.d; d.d += d.d; d.b += d.c/d.d
def drawAll(c, d): c.create_polygon(d.a, d.b, d.c, d.a, d.b+d.c, d.a, d.b+d.c, d.a-d.c)
```