Name : _____

1. *(2 points)*
Section/Grading TA Name: _____

- Integrity: By taking this exam, you pledge that this is your work and you have neither given nor received inappropriate help during the taking of this exam in compliance with the Academic Honor Code of Georgia Tech. Do NOT sign nor take this exam if you do not agree with the honor code.
- Devices: If your cell phone, pager, PDA, beeper, iPod, or similar item goes off during the exam, you will lose 10 points on this exam. Turn all such devices off and put them away now. You cannot have them on your desk.
- Academic Misconduct: Academic misconduct will not be tolerated. You are to uphold the honor and integrity bestowed upon you by the Georgia Institute of Technology.
  - Keep your eyes on your own paper.
  - Do your best to prevent anyone else from seeing your work.
  - Do NOT communicate with anyone other than a proctor for ANY reason in ANY language in ANY manner.
  - Do NOT share ANYTHING during the exam. (This includes no sharing of pencils, paper, erasers).
  - Follow directions given by the proctor(s).
  - Stop all writing when told to stop. Failure to stop writing on this exam when told to do so is academic misconduct.
  - Do not use notes, books, calculators, etc during the exam.
- Time: Don't get bogged down by any one question. If you get stuck, move on to the next problem and come back once you have completed all of the other problems. This exam has 8 questions on 6 pages including the title page. Please check to make sure all pages are included. You will have 50 minutes to complete this exam.

I commit to uphold the ideals of honor and integrity by refusing to betray the trust bestowed upon me as a member of the Georgia Tech community. I have also read and understand the requirements outlined above.

Signature: _____

Question	Points	Score
TA Name	2	
2. Vocabulary	6	
3. Create Nested	5	
4. Dictionary Work	6	
5. Objective Cars	5	
6. GUI drawing Shoes	12	
7. Print v. Return	3	
8. CSV Average Ints	12	
Total:	51	

2. *(6 points)*

For each of the following vocabulary terms, write a concise 1-2 sentence definition. Be brief, and to the point.

(a) [3 pts] sequence

(b) [3 pts] raise

3. *(5 points)*

Write a function called **createNested** that accepts a single integer parameter N. It must create an N by N (2 dimensional) data structure made out of nested lists that is filled with zeros and return it. As an example, when `createNested(3)` is called, it will return:

```
[ [0,0,0], [0,0,0], [0,0,0] ]
```

4. *(6 points)*
Will the following code produce an error when executed? If yes, explain why, if not, what will be printed?

```
aDict={ }
aList=[1,[3,4],5]
bList=[7,6,'Jay']
for item in range(len(aList)):
     aDict[ bList[item] ]= aList[item]
print(aDict)
```

Will the following code produce an error when executed? If yes, explain why, if not, what will be printed?

```
bDict={ }
cList=[1,2,[3,4] ]
dList=[9,8,7]
for item in range(len(dList)):
     bDict[cList[item]]=dList[item]
print(bDict)
```

5. *(5 points)*
Examine the code below. Write down exactly what would be printed if the code was executed. (If it would not run, explain why not.)

```
class E2:

    def __init__(self, paint, make):
        self.paint = paint
        self.make = make

    def printMyCar(self):
        print("I'm driving a {0} {1}, bro.".format(self.paint,self.make))

car1 = E2('red','Mercedes')
car2 = E2('blue','Audi')

car1.paint = car2.make
car2.make = car1.make

car1.printMyCar()
car2.printMyCar()
```

6. *(12 points)*
Given the following code, draw the GUI that is produced when it is ran on the next page. Include the window with any decorations. Indicate colors, shading, or state with arrows and labels. After you draw the GUI, answer the question on the next page.

```
from tkinter import *
class MyGUI:
    def __init__(self, win):
        Button(win, text="Do it!", command=self.clicked).pack(fill=X)
        self.e1= Entry(win)
        self.e1.pack()

        AFrame=Frame(win)
        AFrame.pack()
        frame2=Frame(win)
        frame2.pack()

        self.V1=IntVar()
        self.V2=StringVar()
        self.V2.set("0")

        r1=Radiobutton(AFrame, text='Nike', variable=self.V1, value=0)
        r1.grid(row=2, column=2)
        r2=Radiobutton(frame2, text='Adidas', variable=self.V2, value='200')
        r2.grid(row=0, column=0)
        r1=Radiobutton(AFrame, text='Reebok', variable=self.V1, value=300)
        r1.grid(row=1, column=1)
        r2=Radiobutton(frame2, text='Converse', variable=self.V2, value='0')
        r2.grid(row=1, column=1)

    def clicked(self):
        self.Value=self.e1.get()
        self.V2.set(self.Value)

mainWin=Tk()
MyGUI(mainWin)
mainWin.mainloop()
```

Draw your GUI here:

If you were to type "200" into the Entry box and press the button, what would change on the GUI?

7. *(3 points)*
Pretend you are the Python interpreter and the following code has been entered and executed. Write down exactly what would be printed in the shell!

```
def return1():
    print(1)
    return 1

def someFunc():

    if return1() == 1:
        print('hi')

    if return1() == 0:
        print('bye')


someFunc()
```

8. *(12 points)*

Write a function `averageInts` that takes in one parameter, the name of a CSV file as a string. The CSV file will contain entries similar to this example (Note that a colon is used as the delimiter!):

```
1:2:3
4:9
b:c:d:e
4:8:7
```

Your function must use the csv module to parse the file, read in the data, find all of the integers (NOT FLOATS!), and return the average of any integers in the file. Ignore any non-integer values. The CSV file can have any number of rows, and each row can have any number of items, so do not hard code a function that only works for the above example. If the function were run on the example data above, it would return 4.75 .