

Name : _____

Grading TA: _____

- **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 10 questions on 8 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
1. Vocabulary	9	
2. Audio	0	
3. Short Answer	18	
4. True or False	4	
5. CountUp	6	
6. Loving While	4	
7. Fill in the Blank	6	
8. Same IFs	4	
9. DooWaa	6	
10. Who Won?	16	
Total:	73	

1. (9 points)

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

(a) [3 pts] evaluate

(b) [3 pts] float

(c) [3 pts] iteration

2. (0 points)

Circle the appropriate answer for you:

In lecture, I typically sit in the **front** / **middle** / **back** of the lecture hall.

Jay's voice is **too quiet** / **just right** / **too loud** for me.

3. (18 points)

For each of the following questions, give a brief answer:

- (a) [10 pts] Pretend you are the python interpreter. Evaluate each of the expressions below. Write down the value that they evaluate to, and the type of that value in the provided columns. If the expression is not valid python syntax, or will throw an exception, simply write "Error". The first line has been provided as an example.

Expression	Result	Type
<code>1 + 2 * 3</code>	7	int
<code>6 % 4 / 3</code>		
<code>"a" + "b" * 2</code>		
<code>len(range(4,5))</code>		
<code>3.5 * 2</code>		
<code>4**(3.0/2)</code>		

- (b) [2 pts] What is printed to the console if the following code is evaluated?

```
print "%.2f" % (4/2)
```

Answer: _____

- (c) [6 pts] Pretend you are the python interpreter. Write down what would be printed out when the following code is executed:

```
def foo(n):
    print n*3
    return n*2

print "Begin"
y = foo(7)

if (y > 15):
    print "Breakfast"
elif (y > 10):
    print "Lunch"
if (y > 5):
    print "Dinner"
else:
    print "Dessert"

if ('a' < 'b'):
    print "Apple"
elif ('a' < 'A'):
    print "Peanut"
else:
    print "Butter"
print "Finished"
```

4. (4 points)

Examine the following function:

```
def trueOrFalse(a,b,c,d):
    a = raw_input("Enter a: ")
    b=b
    d=c
    c = b/d
    d=d

    #Print all variables
    print a, b, c, d
```

Assume the function is called as follows:

```
trueOrFalse(4,1,2,3)
```

and the number 30 is typed for the `raw_input` prompt: *Enter a:*

At the end of the function, we print the four variables. At this point in the flow of execution, indicate if each of the following statements is True or False:

- T / F** 1. The variable `a` will point at 30 whose type is int.
- T / F** 2. The variable `b` will point at 2 whose type is int.
- T / F** 3. The variable `c` will point at 0.5 whose type is float.
- T / F** 4. The variable `d` will point at 3 whose type is int.

5. (6 points)

Write a function called **countUp** that accepts two integer parameters. The function will print out all integers between the two parameters (excluding both parameters!) in ascending order. You may assume that the two parameters are valid integers, and that the first parameter will always be smaller than the second parameter.

Example test case:

```
>>>countUp(1,5)
2
3
4
>>>
```

6. (4 points)

Pretend you are the python interpreter and the following code is executed.

```
x = 3
while x >= 0:
    if x%2 == 0:
        print "chocolate"
    elif x-3<0:
        print "flowers"
    else:
        print "valentine"
    x = x - 1
```

What is the output that is printed to the screen?

7. (6 points)

Complete each statement below by filling in the blank:

1. You use _____ in your python programs, denoted by the # symbol, to explain in natural language how your program works.
2. In python, the single equal sign is used for _____, while the double equal sign is used for _____.
3. A good recursive function requires three things: First, it must call _____. Second and third, it must have a _____ condition and it must _____ it.

8. (4 points)

Which two (of the following four) blocks of code has the exact same meaning? [You may assume that `booleanExpression1...booleanExpression3` are variables that point to a boolean value, and have the same values for all four blocks of code.]

A:

```
if booleanExpression1:
    print "Yeah"
elif booleanExpression2:
    print "Yeah"
elif booleanExpression3:
    print "Yeah"
```

B:

```
if booleanExpression1:
    print "Yeah"
elif booleanExpression2:
    print "Yeah"
elif booleanExpression3:
    print "Yeah"
else:
    print "Yeah"
```

C:

```
if booleanExpression1 or booleanExpression2 or booleanExpression3:
    print "Yeah"
```

D:

```
if booleanExpression1:
    print "Yeah"
if booleanExpression2:
    print "Yeah"
if booleanExpression3:
    print "Yeah"
```

_____ and _____ give identical results.

9. (6 points)

Fill in the blanks so that, when run, the code below will output the following:

```
>>> func1()
DooWaa
Diddy
Diddy
Dum
Diddy
Doo
```

```
def func1():
    print "DooWaa"
    for i in range( _____ ):

        print _____

        if i == _____ :
            print "Dum"
    print "Doo"
```

10. (16 points)

Write a function named `whoWon` that takes in four parameters (`team1`, `score1`, `team2`, `score2`). The team names (`team1` and `team2`) will be passed in as strings. The scores for the teams (`score1` and `score2`) will be passed in as integers.

Your function should **return** a string that states who the winning team is, what their score was, how many points they won by, and who they beat. If the game was a tie, return the string "It's a tie!". (See examples below).

Example test cases:

```
>>> result = whoWon("Georgia Tech", 30, "Duke", 20)
>>> result
"Georgia Tech scored 30 points and won by 10 points over Duke!"
>>> whoWon("United States", 1, "England", 1)
"It's a tie!"
```