

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.

CS 1301 Exam 1

Fall 2009

Problem	Earned Points	Possible Points
1. Vocabulary		18
2. Python Expressions		26
3. Fill in the Blank		11
4. Multiple Choice		6
5. Reading Code		5
6. Combinations		5
7. MovieView		6
8. IsEven		5
9. Blastoff		8
10. Count J's		10
Total:		100

1. Vocabulary (18 points)

For each of the following words, write a 1-2 sentence definition of the word as used in this class. Your definition should be concise and to the point, while proving you know what the term means.

a) evaluate -

b) iteration -

c) modulus -

d) proprioception -

e) semantic error -

f) type conversion -

2. Python Expressions (26 points)

Act like the python interpreter and evaluate the following expressions. Write what value the expressions evaluate to as well as its type (integer, float, string, boolean, etc...).

Expression	Evaluated Result (1 points)	Type of the Result (1 point)
"Hello" + "World" + "!"	"HelloWorld!"	String
5 + 6		
"cs1301" * 2		
int(5.9) / 3		
(6.0 - 1) ** 2 + 3		
"92" + str(34) + "Four"		
True and (3 != 2)		
range(3,7)		
(7.0 + 6) / 2		
range(3,10,2)		
5.0 > 5.0		
"Pumpkin %.3f" % 3.1459		
7 + 3 / 2 > 8		
(raw_input() > 3) and False		

3. Fill in the Blank (11 points)

The name of my grading TA is: _____ and I am in section _____.

For homeworks 2 & 3 my partner was: _____.

In Python, a `=` is used for _____, while a `==` is used for _____.

When a function calls itself, it is said to be _____.

In python, the **if** keyword is used to make a _____ statement, while the **for** and **while** keywords are used to make _____.

The decimal (base 10) number $\{ 43 \}_{10}$ is represented as _____ in binary.

The binary number $\{ 100101 \}_2$ is represented as _____ in decimal.

The number $\{ 28 \}_{10}$ is represented as _____ in hexadecimal.

4. Multiple Choice: Circle the correct choice. (6 points)

4a. Ada Lovelace is widely regarded as the first:

A. Computer Scientist **B.** Programmer **C.** Compiler **D.** Discrete Mathematician **E.** None of these

4b. Douglas Engelbart demonstrated the worlds first _____ in 1964 at Stanford.

A. Transistorized Computer **B.** Mouse **C.** Solid Sate Memory **D.** Tape Drive **E.** Transistor

4c. Grace Hopper was:

A. A Rear Admiral. **B.** Awarded the “man-of-the-year” award from DPMA in 1969.
C. Instrumental in the development of COBOL. **D.** Credited for developing the first compiler.
E. All of the above.

5. Reading Code (5 points)

Act like the python interpreter and run the following program. Write what would be printed out by the program in the box to the left.

```
def fun1(x):
    print "Fun1 x:", x
    return x * 2

print "Start"

y = fun1(10)

if (5 > y ):
    print y
elif ( 15 > y ):
    print y + 10
elif (25 > y ):
    print y + 100
elif (35 > y):
    print y + 1000
else:
    print y + 10000

print "End"
```

6. Writing Code - Combinations (5 points)

Write a function named **combine** that accepts two strings as parameters. The function should concatenate the strings (putting the second parameter after the first parameter), and return the new combined string.

7. Correcting Code: MovieView (6 points)

Look over the following lines of code, and for each line determine if the code will run (syntax is correct). If the line of code is correct, just tell us "It works!", if it will not, please explain why/correct the error.

```
1: define movieView(age):
2:     name = raw_input("What is your name? ")
3:     if age < 17
4:         print "Sorry %d, you can't see the movie alone." % name
5:     else age >= 17:
6:         print "Enjoy the film, %s!" % name
```

Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

Line 5: _____

Line 6: _____

8. Write Code - IsEven (5 points)

Write a function called **IsEven** that accepts a single parameter **aNum**. If **aNum** is even (evenly divisible by 2) the function must return True, otherwise, it must return False.

9. Write Code - Blastoff (8 points)

Write a function called `blastoff` that will accept a single parameter called `N`. Your function should start counting down from `N`, printing each number one per line until `N` reaches zero. When `N` reaches zero, instead of printing "0", the function should print "Blastoff!".

For example, if you called `blastoff` and gave it an `N` of 5, this would be the result:

```
>>>blastoff(5)
```

```
5
```

```
4
```

```
3
```

```
2
```

```
1
```

```
Blastoff!
```

```
>>>
```

10. Write Code - Count Js (10 points)

Write a function named `countJs` that accepts a single string parameter called `aString`. The `countJ`'s function should keep a count of how many times the capital letter "J" appears in the string, and return the final count.