

CS 1301 Exam 1 – Answer Sheet - Spring 2009

NOTE: Question 33 & 34 are located on the back of this sheet!

Your Name: _____ **Your TA's Name:** _____ (5pts)

Please answer multiple choice questions 1 - 20 in the following spaces. Mark you answer by completely filling the circle to the right of the corresponding letter.

1. A O B O C O D O E O	11. A O B O C O D O E O
2. A O B O C O D O E O	12. A O B O C O D O E O
3. A O B O C O D O E O	13. A O B O C O D O E O
4. A O B O C O D O E O	14. A O B O C O D O E O
5. A O B O C O D O E O	15. A O B O C O D O E O
6. A O B O C O D O E O	16. A O B O C O D O E O
7. A O B O C O D O E O	17. A O B O C O D O E O
8. A O B O C O D O E O	18. A O B O C O D O E O
9. A O B O C O D O E O	19. A O B O C O D O E O
10. A O B O C O D O E O	20. A O B O C O D O E O

B. Please answer True/False questions 21-30 in the following spaces. Mark you answer by completely filling the circle under the corresponding answer.

	True	False		True	False
21.	<input type="radio"/>	<input type="radio"/>		26.	<input type="radio"/>
22.	<input type="radio"/>	<input type="radio"/>		27.	<input type="radio"/>
23.	<input type="radio"/>	<input type="radio"/>		28.	<input type="radio"/>
24.	<input type="radio"/>	<input type="radio"/>		29.	<input type="radio"/>
25.	<input type="radio"/>	<input type="radio"/>		30.	<input type="radio"/>

31.	32.
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33. Python Expression Evaluation (14 points)

Pretend that you are the Python Interpreter (IDLE window). What do you print or return when each of the following statements are entered? What type is it?

Example: $(7+4) / 2$

Result: 5 Type: int

Example: "Hi" + "Bye"

Result: "HiBye" Type: string

1. $(15.0 + 4) / 2$

Result: _____ Type: _____

2. $9 ** 2$

Result: _____ Type: _____

3. "Hi" * 3

Result: _____ Type: _____

4. $\text{int}(5.135)$

Result: _____ Type: _____

5. $9 > 5.0$

Result: _____ Type: _____

6. $3 > 8 - 21/2$

Result: _____ Type: _____

34. Write the number from the correct definition in the blank next to each term on the left: (14 points)

___ Print statement	1. A special symbol that represents a simple computation like addition, multiplication, or string concatenation.
___ Program	2. An error in a program that makes it impossible to parse (and therefore impossible to interpret).
___ Runtime error	3. An instruction that causes the Python interpreter to display a value on the screen.
___ Semantic error	4. A statement that executes a function. It consists of the name of the function followed by a list of arguments enclosed in parentheses.
___ Syntax error	5. An error in a program that makes it do something other than what the programmer intended.
___ Floating-point	6. A sequence of instructions that specifies to a computer actions and computations to be performed.
___ Integer	7. A reserved word that is used by the compiler to parse a program; you cannot use things like <code>if</code> , <code>def</code> , and <code>while</code> as variable names.
___ Integer division	8. A format for representing numbers with fractional parts.
___ Keyword	9. An explicit statement that takes a value of one type and computes a corresponding value of another type.
___ Operator	10. A named sequence of statements that performs some useful operation. They may or may not take parameters and may or may not produce a result.
___ Variable	11. An error that does not occur until the program has started to execute but that prevents the program from continuing.
___ Function	12. An operation that divides one integer by another and yields an integer. It yields only the whole number of times that the numerator is divisible by the denominator and discards any remainder.
___ function call	13. A name that refers to a value.
___ Type conversion	14. A Python data type that holds positive and negative whole numbers.

A. Multiple choice questions – fill in the circle corresponding to the correct answer on the answer sheet (page 1). Be sure you double check that you have marked the answer corresponding to the correct number!

1. Which of the following function definitions is correct?

A. def myFunc() print "Hello!"	B. define myFunc() print "Hello!"	C. def myFunc(): print "Hello!"	D. define myFunc(): print "Hello!"
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E. None of the above

2. The following code will print:

```
#assume myFunc is already defined from the previous question  
print "Goodbye!"  
myFunc()  
print "Toodles!"
```

A. Hello! Goodbye! Toodles!	B. Hello! Toodles! Goodbye!	C. Goodbye! Hello! Toodles!	D. Goodbye! Toodles! Hello!
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E. None of the above

3. Charles Babbage is known for:

- A. Creating Minesweeper.
- B. Developing Python.
- C. Designing the Difference Engine
- D. Creating the first GUI

```
v = 3.1415
```

```
print "Pi is approximately %.3f" % v
```

4. The above code prints out:

- A. "Pi is approximately %.3f"
- B. "Pi is approximately v.3f"
- C. "Pi is approximately 3.141"
- D. "Pi is approximately 3.142"
- E. "Pi is approximately 3.1415"

5. Spacewar, perhaps the worlds first computer game, was created in 1962:
- A. At MIT
 - B. At Berkeley
 - C. At Stanford
 - D. At Harvard
 - E. At both B & D in collaboration
6. Douglas Engelbart demonstrated the world's first _____ in 1964 at Stanford.
- A. Transistorized Computer
 - B. Solid Sate Memory
 - C. Mouse
 - D. Tape Drive
 - E. Transistor

a = 5
b = 6
a = b

7. If the above code is run, the variable 'a' contains:
- A. 5
 - B. 6
 - C. False
 - D. None of the above
8. $1 - (5\%5) + 2 * 1$ evaluates to:
- A. 3
 - B. 2
 - C. 0
 - D. 1
9. The transistor:
- A. Was invented by John Eckert and John Mauchly
 - B. Was invented by William Shockley and Walter Brattain
 - C. Was invented at Bell Labs
 - D. A&C
 - E. B&C

10. The software that really kick-started the personal computer market was:
- A. Word Perfect
 - B. VisiCalc
 - C. Microsoft DOS
 - D. Spacewars
 - E. Pong
11. Alan Turing is famous for:
- A. His work on FORTRAN
 - B. Developing the first interpreted language
 - C. His work in machine intelligence
 - D. Creating the transistor
 - E. None of the above
12. $3^{**}(2)-3$ evaluates to:
- A. 0
 - B. 3
 - C. 5
 - D. 6
13. One of the earliest networks was:
- A. Gophernet
 - B. ARPAnet
 - C. HYPERnet
 - D. HTTPnet
 - E. Travnet
- `print type("3") == str`
14. If you run the above line of code, you'll print out:
- A. True
 - B. False
 - C. str
 - D. String
 - E. None of the above
15. If you execute the code `print (True == False) == False` what is printed?
- A. True
 - B. False
 - C. bool
 - D. int
 - E. None of the previous

Refer to the following code for questions 16-18:

```
print "Start!"

def mulPrint( text, num):
    print text * num

def circumference( diameter ):
    a = diameter * 3.14159
    mulPrint( a, 2)
    return( a )

a = 10
b = circumference( a )
mulPrint("Done!", 3)
```

16. After the code above is executed, the variable **b** will point to:

- A. The float 31.4159
- B. The int 31
- C. The int 10
- D. The int 3
- E. The float 3.14159

17. After the code above is executed, the variable **a** will point to:

- A. The int 314
- B. The float 31.4159
- C. The int 3
- D. The int 10
- E. The float 3.14159

18. When the code above is executed, it will print the following:

A. Start! 62.8318 Done!Done!Done!	B. Start! 31.415931.4159 Done!	C. Start! 31.415931.4159 Done!Done!Done!	D. Start! 62.8318 Done!
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E. None of the above

19. The decimal number $\{19\}_{10}$ is what binary (base 2) number?

- A. 11111 B. 10101 C. 10100 D. 10011 E. None of these.

20. The binary number { 1101010 }₂ is what decimal (base 10) number?

A. 106 B. 111 C. 102 D. 110 E. 112

B. True/False questions – fill in the circle corresponding to the correct answer on the answer sheet (page 1). Be sure you double check that you have marked the answer corresponding to the correct number!

21. You can name your robot using the nameRobot() function.
22. In RGB color, (255, 255, 255) is true black.
23. The beep() function causes your computer to beep.
24. The speak() function will generate audible speech from a string.
25. Proprioception refers to external sensors.
26. If you want to make your robot wait, you can use the pause() function.
27. The Spirit and Opportunity mars rovers were expected to last about 90 days.
28. 'print' and 'return' do the same thing.
29. Python variable names can't contain numbers.
30. The bottom left corner of a default Myro graphics window is at location 0,0.

C. Write Code!

31. Write a function named "average_three_numbers" (without the quotes). It should take in three parameters named *numOne*, *numTwo*, and *numThree*, and return the average of the three numbers. Write your function in box 31 on the answer sheet (page 1).

32. Write a function named *isDivisible* that takes two parameters which you can assume are integers. Your function should return 1 if the first parameter is evenly divisible by the second. Otherwise, your function should return 0. Write your function in box 32 on the answer sheet (page 1). *Hint, you may want to use the modulo (%) operator.*

This page is intentionally left blank. Feel free to use it for scratch work. This test has a total of 34 questions (question 33 & 34 are on the back of page 1, the answer sheet). Did you do them all?