CPSC 231 Midterm Review: Fall 2010

Instructions:
- For the multiple choice questions make sure that you *select the best answer* to each question.
- Unless otherwise indicated you can assume that the programs and program fragments will translate and run.

Multiple choice questions:

1. What is the output of the following program?

```
x = 42
print "x:", x
```

    a. x:
    b. 42
    c. x: 42
    d. "x:", x
    e. print "x:", x

2. What is the output of the following program?

```
percent = 95
if (percent <= 100) or (percent >= 90):
    letter = 'A'
if (percent <= 89) or (percent >= 80):
    letter = 'B'
if (percent <= 79) or (percent >= 70):
    letter = 'C'
if (percent <= 69) or (percent >= 60):
    letter = 'D'
if (percent <= 59) or (percent >= 00):
    letter = 'F'
print letter
```

    a. A
    b. B
    c. C
    d. D
    e. F

3. The program below is supposed to sum the series of three numbers. What type of error does the program contain?

```
num1 = 1
num2 = 2
num3 = 3
sumSeries = num1 * num2 * num3
```

    a. Syntax
    b. Runtime
    c. Logic
    d. This program contains no errors

4. What is the output of the following program?

```
def fun (num):
  if (num > 0):
    num = num + 1
    print num,
    fun(num)

fun (1)
```

    a. 0
    b. 1
    c. 2
    d. 1 2 3 4…
    e. 2 3 4 5…

Written questions:

Question 1:

The function below is supposed to swap the contents of 'num1' and 'num2' and display the result. Critique how successfully the function implements this operation and how it may need to be modified.

```
def swap (num1, num2):
  num1 = num2
  num2 = num1
  print num1, num2
```

Question 2:

Write a function that will prompt the user for their password. If what the user typed in *doesn't match* the string "password" then function will display an error message "Password incorrect!" and recursively call itself again. If what the user typed in *does match* the password then the function will display an appropriate confirmation message "Password correct!" and the function will end.

Question 3:
Write a function that will take three numbers as inputs. It will calculate the average of the
three numbers and display the result.

Question 4:
Evaluate the following logical expression. For all the different true/false combinations of
X and Y you are to put the intermediate and final result of the logical expression in the
corresponding column of the truth table.

(NOT X) OR (X AND Y)
^^^^^^   ^^^^^^

 Column 3   Column 4
    ^   ^
    |_____|
Column 5: Take the result of Column 3 and Column 5 and apply the logical OR operation.

X	Y	NOT X (Col 3)	X AND Y (Col 4)	(NOT X) OR (X AND Y) (Col 5)
False	False			
False	True			
True	False			
True	True			

JT: If you liked the practice questions then you'll love the real
thing!