CPSC 231 Final exam review (Extra online examples)

Written questions

1. What is the output of the following program?

```
class OddBall :
    count = 0
    def __init__(self, val ):
        self.count = val

    def increment(self):
        self.count = self.count + 1

    def decrement(self):
        self.count = self.count - 1

    def get_count(self):
        return self.count

a = OddBall(0)
b = OddBall(2)
print(a.get_count(), end = ' ')
b.increment()
print(a.get_count(), end = ' ')
a.decrement()
print(b.get_count(), end = ' ')
```

2. For the following question refer to the following function.

```
def fileRead() :
    tempList = []
    inputFile = open('bruce.txt', 'r')
    for line in inputFile:
        tempList.append(line)
    inputFile.close()

    wordList = []
    for line in tempList :
        words = line.split()
        for word in words:
            if word not in wordList :
                wordList.append(word)
    return (wordList)
```

If file 'bruce.txt' contains the following text, then what will the function return?

Absorb what is useful,
Reject what is useless,
Add what is specifically your own.

3. Write code that uses a function from another module. Include all necessary 'imports'.

4. What will be the output of the following program?

```
def f1(n):
    if (n<=0):
        return 0
    return f2(n-1)

def f2(n):
    if (n<=0):
        return 0
    return f1(n-2)

print(f1(10))
```

5. What is the output of the following program?

```
def f(n):
    if (n <= 1):
        return 1
    return(n*f(n-1))

for i in range(1,6,1):
    print(i,'\t', f(i))
```

6. Explain why compiled programs generally run faster than interpreted programs?

Multiple choice questions

1. _____ variables employ a sign bit represent information.
    a. Constant
    b. Floating point
    c. Integer
    d. String
    e. (b) & (c)

2. Given that you know the ASCII code for the character 'A' is 65 then what will be the ASCII code for the character 'F'
    a. 65
    b. 69
    c. 70
    d. 71
    e. 72

3. Which of the following error types is NOT detected by the Python interpreter?
    a. Syntax errors
    b. Runtime errors
    c. Logic errors
    d. All these error types are detected by the interpreter.

For following two questions you are to specify the number of times that the corresponding loop will execute.

4.
```
for i in range (1, 9, 2):
    print(i)
```
    a. 0
    b. 1
    c. 3
    d. 4
    e. 5

5.
```
for i in range (9, 1, 2):
    print(i)
```
    a. 0
    b. 1
    c. 3
    d. 4
    e. This loop will never end

6. What is the output of the following program?

```
def f(x, y):
    if y == 0:
        return x
    else:
        return f(y, x%y)

print(f(240, 150))
```

    a. 30
    b. 60
    c. 90
    d. 120
    e. This program will produce no output

7. Assuming that the file has been correctly opened. Which of the following is the correct way to *read the contents of an entire file of any size*?

```
filename = open ("data.txt", "r")
```

    a. print(filename)
    b. filename.close ()
    c. for temp in filename:
    d. None of the above