COSC 235 Fall 2007
Quiz #3

Please read each question carefully and be sure to give complete answers. Good luck!

1. (1 pt.) What is your name? _____

2. (2 pts. each/12 pts. total) Object-oriented Programming Matching Questions: Select the best answer for each. Answers *may* be used more than once.

a. accessor(s)
b. attribute(s)
c. class(es)
d. constructor(s)
e. encapsulation
f. inheritance
g. instance
h. method(s)
i. mutators(s)
j. polymorphism
k. self

3. _____ The function `__init__()`.

4. _____ The functions used to examine variables within an object.

5. _____ The variables within a class definition that are associated with an object.

6. _____ Collectively, all the functions defined within a class definition.

7. _____ Allows one class to be defined in terms of another class using methods from the original class.

8. _____ Hiding information within a class so that it can only be accessed or changed through a well-defined interface.

9. (15 pts.) Give code to generate pseudo-random numbers subject to the following constraints:

a) A floating point number between 0.0 and 1.0.

b) A floating point number between 0.0 and 2.5.

c) A floating point number between -5.0 and 5.0.

d) An integer between 0 and 10 inclusive.

e) An integer between -5 and 5 inclusive.

10. (14 pts.) Use

```
lst = [23, 19, 42, 4, 23, 65, 23, 4, 81, 19, 23, 19, 23]
```

to answer the following. If the operation is not legal, explain why. Each part is independent of the other parts, i.e., assume the same initial value for `lst` for each part.

a) What is returned by this command?

```
lst.index(4)
```

b) What is the value of `lst` after executing this command?

```
lst.pop()
```

c) What is the value of `lst` after executing this command?

```
lst.remove(23)
```

d) What is the value of `lst` after executing this command?

```
lst.insert(2, 5)
```

e) What is returned by this command?

```
5 in lst
```

f) What is returned by this command?

```
length(lst)
```

g) Give the command to change the list so that its contents are reversed.

11. (6 pts.) Define a dictionary `grades` to record the following information:

Key	Value
"James"	87
"Jim"	93
"Jimbob	67
"Jimmy"	91

12. (6 pts.) Write a function `display()` that takes a dictionary as an argument and prints key and value for each entry in the dictionary in the format "`key:value`". For example, for grades the output would begin:

```
James:87
Jim:93
```

13. (8 pts.) Using the dictionary `info`, give commands to

a) look up the value corresponding to the key "`Sam`"

b) check to see if the dictionary has an entry for the key "`Samuel`"

c) get a list of all the values in the dictionary

d) remove all the entries in the dictionary

14. (12 pts.) Write s function `spinner()` that models the spinner used to select restaurants for Wofford's Novel Experience. `spinner()` should prints the name of a restaurant from the following list with equal probability: *Burwells, TacoDog, Beacon, Ikes, Wades.* For example,

```
>> spinner()
Congrat's.  Dinner at Wades!
```

The code on the next page is an incomplete class definition for a class `BandFruit` *that records the number of boxes of fruit sold as a marching band fundraiser. Answer the following questions on the next page using the code provided.*

15. (4 pts.) In the appropriate space, add a *docstring* of your choosing to the class.

16. (10 pts.) In the appropriate space, write two methods, `totalSales` and `profits`. The first will take no arguments and will return the total sales in dollars. The latter takes a percentage as an argument (profit margin) and returns the profits made on the sales. For example, if you have sold 10 boxes at $12 per box and profit margin is 25%, your total sales would be $120 and your profit would be $30.

17. (12 pts) In the space below the code, give code to

a) create an instances of `BandFruit` called `oranges` where the fruit is `oranges` and the cost is `$15` a box.

b) create an instances of `BandFruit` called `apples` where the fruit is `apples` and the cost is `$12` a box.

c) record the sale of 10 boxes of oranges.

d) record the sale of 12 boxes of apples.

e) display the total number of boxes of apples and oranges sold, e.g.,
`Totals sales are 22 boxes.`

f) display the profit from the sale of apples and oranges given a profit margin of 30%, e.g.,
`Total profits are $88.20.`

```
## Attached is the code described on the previous page


class BandFruit:



   def __init__(self, cost, fruit):
      self.boxesSold = 0
      self.price = cost
      self.kind = fruit

   ## record a sale
   def record(self, amount):
      self.boxesSold += amount

   ## return number of boxes sold
   def report(self):
      return self.boxesSold

   ## return total sales in dollars




   ## return profits




   ## demo code per question 17
```

Pledged: _____