March 25

Weight: N/A

POP QUIZ

**Part ONE: Multiple Choice (20 questions)**

Highlight one answer per question

1) Given the following code:

my\_list = [1,2,3,4]

Which of the following will my\_list in reverse?

a) print my\_list[-1]

b) print my\_list.tail()

c) print my\_list.sort(reverse=True)

d) print my\_list[::1]

2)Given the code:

x = {3 ,7}

y = {1,3,7,14}

a = x <= y

What is the value of a?

a) {1}

b) {1,3}

c) True

d) False

e) {1,3,7}

3) Which data type is the following: (1,2,3)

a) Counter

b) Tuple

c) Map

d) Set

e) List

4) Which method of file objects will return the next line in the file?

a) getline()

b) readline()

c) read()

d) echo()

e) getNextLine()

5) You must execute a code statement multiple times as long as a certain condition remains valid. What control structure do you select?

a) do while

b) for

c) while

d) if else

e) Call tech support

6) Which of the following symbols are used for finding out if two values are equal to each other?

a) ==

b) ===

c) =

d) !=

e) !==

7) What is the meaning of **\n** ?

a) Next Page

b) Tab space

c) New line

d) New Paragraph

e) New class

8) Which is an interactive flow control structure in Python

a) switch

b) with

c) print

d) exit

e) while

9) Which operator is used to assign a value to a variable

a) =>

b) ->

c) ==

d) =

e) None of the above

10) How do you write a **for** loop in Python syntax?

a) for(i=0;i<10;i++){cout<<i;}

b) foreach (int i in range(10){Console.Write(i);}

c) for(i=0;i<10;i++){system.out.println(i);}

d) for i in "abc": print(i)

e) All of the above

11) When creating a while loop, what would happen if you forget to insert an increment statement to break out of the loop?

a) The code would generate a random integer and stop the while loop after that number of iterations

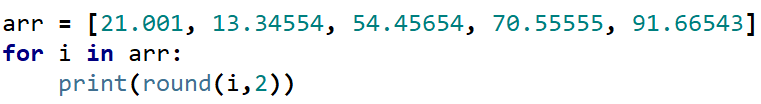
b) The code would throw an error displaying "infinite loop detected"

c) The code would run into an infinite loop

d) The code would stop after a predefined number of iterations

e) None of the above

12) You have a list of five elements with varying degrees of decimal values. What must you change in the given code to get each element with a precision of five and a scale of three?



a) Reverse the parameters of the round function.

b) Change the second parameter of the round function to a three

c) The **for** loop should increment the list element before the round function executes

d) Cast the list values to a string value.

e) None of the above

13) The project you're working on requires a view of the keys in the following dictionary. What command would you use to assign that view to a variable called key\_view?



a) key\_view = dict\_1(keys)

b) key\_view = dict.keys(dict\_1)

c) key\_view = dict\_1.keys()

d) key\_view = dict.keys()

14) How does the Python interpreter know which line to execute after the block of an if statement?

a) It executes the next line that has less indentation than the line before it

b) It executes the line before the block begins.

c) It calls back to the conditional of the if statement.

d) It finds the next blank line then executes the line after the blank line.

15) What line of code must you add to the following to return the output "7.0"?

a) nums = bool(nums)

b) nums = nums.0

c) nums = float.nums

d) nums = float(nums)

16) What is the general purpose of the return statement?

a) To return a value from the subroutine

b) To move up a directory

c) To start at the top of a loop

d) To exit a program

17) Explain the difference between the AND operator and the OR operator?

a) The AND operator returns True if all statements evaluate to True. The OR operator returns True if any of the statements in the expression return True

b) The OR operator returns True if all statements evaluate to False. The AND operator returns True if any of the statements in the expression return False

c) The OR operator returns True if all statements evaluate to True. The AND operator returns True if any of the statements in the expression return True

d) The AND operator returns True if all statements evaluate to False. The OR operator returns True if any of the statements in the expression return False

18) You are creating error handling for a Python script that compares set variables to a static list. Given the list L, what code could test if the variable x exists in L?

a) if ( x not in L ):   
 print "x is present in given list"  
else:   
 print "x is NOT present in given list"

b) if ( x ):   
 print ("x is present in given list",L)  
else:   
 print ("x is NOT present in given list", L)

c) if ( L contains x ):   
 print "x is present in given list"  
else:   
 print "x is NOT present in given list"

d) if ( x in L ):   
 print "x is present in given list"  
else:   
 print "x is NOT present in given list"

19) What method can you use to add an item to the end of a list?

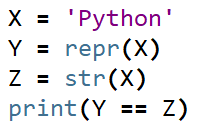
a) list.insert()

b) list.extend()

c) list.push()

d) list.append()()

20) You run the following code in a Python IDE, what is the output ?



a) TypeError

b) False

c) True

d) None

**Part Two: Programming Questions (OOP):**

**Question 1:**

Write a class named “Bicycle” that has the following instance variables: gear, speed and brakes. This class will as well have the following methods: changeGearUp, changeGearDown, speedup, speedDown, applyBrakes, and printStates. The printStates method can print all of the current attributes of the bike object and brakes can be a Boolean type. Create an object named bike and test some of your methods/code that you have written with some output delivered to the user.

class bicycle:

def changeGearUp(self):

print("you have to shifted the gear up")

def changeGeardown(self):

print("you have to shifted the gear down")

def speedup(self):

print("increased speed")

def speeddown(self):

print("decreased speed ")

def applybrakes(self):

print("Brakes applied")

def printstates(self,status):

self.brake = True

print("brake status: "+str(self.brake))

print(status)

status="brakeapplied"

bike=bicycle()

bike.changeGeardown()

bike.changeGearUp()

bike.speedup()

bike.speeddown()

bike.applybrakes()

bike.printstates(status)

**Question 2:**

**i)** Write a complete class called GasPump to represent a gas pump. The class should have a constructor to set the amount of available gas supply (in litres) and the price of gas per litre. The class should include:

-An accessor and a mutator to set and get the gas price.

-An accessor to get the current amount of gas supply.

-A method to add fuel to the gas supply. Note that the maximum capacity of the pump is 5000 litres. If we try to add too much fuel, once the maximum capacity is reached, no more fuel can be added.

-A method that sells a specific amount of gas. This method should reduce the supply of available gas by the amount sold and return the total cost of the gas sold. If the supply of the available gas is less than the amount requested, then only the existing supply should be sold.

**ii)** Using the class defined in part **(i)**, add a driver that will:

- Create an object called ‘shell’ of the class GasPump and initializes it to 3000 litres and 78.5 cents a litre.

-Asks the user how much gas he/she wants to buy.

-Sells this amount of gas from shell.

-Adds 500 litres of gas to shell.

-Displays the content of gas supply left in shell.

**Submit on Omnivox before end of class to confirm your attendance. If you are not complete by end of class, upload what you have completed up until that point. Submissions should be completed and submitted individually, do not upload submissions for multiple students, only your own. Submit a word/pdf file for the multiple choice solutions and the .py files for the coding portion in a .zip file.**