*Python Midterm Review part 3*

1. Suppose list1 is [3, 4, 5, 20, 5, 25, 1, 3], what is max (list1)?
   1. 5 b. 4 c. 8 d. **25** e. 1
2. Suppose list1 is [3, 4, 5, 20, 5, 25, 1, 3], what is min (list1)?
   1. 5 b. 4 c. 8 d. 25 e. **1**
3. Suppose list1 is [1, 3, 2], what is sum (list1)?
   1. 5 b. 4 c. **6** d. 2 e. 1
4. Suppose list1 is [1, 3, 2, 4, 5, 2, 1, 0], which of the following displays [1, 3, 2, 4, 5, 2]?
   1. print (list1[0])
   2. print (list1[:2])
   3. **print (list1[:-2])**
   4. print (list1[4:6])
5. Suppose list1 is [1, 3, 2, 4, 5, 2, 1, 0], What is list1 [-1]?
   1. 3 b. 5 c. 1 d. **0**
6. Suppose list1 is [1, 3, 2, 4, 5, 2, 1, 0], What is list1 [:-1]?
   1. 0
   2. **[1, 3, 2, 4, 5, 2, 1]**
   3. [1, 3, 2, 4, 5, 2]
   4. [1, 3, 2, 4, 5, 2, 1, 0]
7. "Welcome to Python".split() is \_\_\_\_\_\_\_\_
   1. **["Welcome", "to", "Python"]**
   2. ("Welcome", "to", "Python")
   3. {"Welcome", "to", "Python"}
   4. "Welcome", "to", "Python"
8. What will be displayed by the following code?

myList = [1, 5, 5, 5, 5, 1]

max = myList[0]

indexOfMax = 0

for i in range(1, len(myList)):

if myList[i] > max:

max = myList[i]

indexOfMax = i

print(indexOfMax)

* 1. 0 b. 1 c. 2 d. 3 e. **4**

1. What will be displayed by the following code?

myList = [1, 2, 3, 4, 5, 6]

for i in range(1, 6):

myList[i - 1] = myList[i]

for i in range(0, 6):

print(myList[i], end = " ")

* 1. 2 3 4 5 6 1
  2. 6 1 2 3 4 5
  3. **2 3 4 5 6 6**
  4. 1 1 2 3 4 5
  5. 2 3 4 5 6 1

1. How many times "Happy Birthday to you!" will be printed?

def happy():

print ("Happy Birthday to you!")

def sing(person):

for i in range(3):

happy ()

print ("Happy Birthday, dear ", person + "!")

def main():

name = input("what is your name? ")

for i in range(2):

sing (name)

main ()

* 1. 2 b. 1 c. 3 d. **6** e. 5

1. What do the variables frequency1 through frequency6 contain at the end of the for-loop?

for roll in range( 1, 6001 ):

face = random.randrange(1, 7)

if face == 1:

frequency1 += 1

elif face == 2:

frequency2 += 1

elif face == 3:

frequency3 += 1

elif face == 4:

frequency4 += 1

elif face == 5:

frequency5 += 1

elif face == 6:

frequency6 += 1

* 1. The number of times a random number between 1 and 6 is rolled
  2. The number of times the variable face is updated in 6000 rolls
  3. 1000
  4. **The number of times the random numbers 1 through 6 come up in 6000 rolls**
  5. The number of times a number between 1 and 6000 comes up

1. Use a list called frequency to re-write the previous code snippet so there will not be a need for if’s statements.

**for i in range (1, 6001):**

**face = random.randrange (1,7)**

**frequency[face] +=1**

1. What is printed after executing the lines below?

letter\_month = ‘ July’

number\_month = 7

print ("%10s%4d" % (letter\_month, number\_month))

* 1. July 7
  2. July 7
  3. **July 7**
  4. It won’t run since it has a syntax error
  5. Nothing

1. Describe the python instruction(s) very clearly in few words.
   1. for number in range( 1, 11 ):

aList += [ number ]

**The numbers 1 though 10 will be added to a list through concatenation**

* 1. for item in aList:

print (item,end='')

**Each item in aList will be printed on the same line**

1. Describe the output very clearly in few words.

for i in range( len( values ) ):

print ("%7d %10d %s" % ( i, values[ i ], "\*" \* values[ i ] ))

**Prints a number, a value related to that number, and the asterisks of the value. A histogram.**

1. Describe the program very clearly in few words.

total = 0

for i in range( len( aList ) ):

total += aList[i]

print ("the sum of all items in the list is ", total)

total = 0

for item in aList:

total += item

print ("the sum of all items in the list is ", total)

**They add the numbers in the list to a total variable the calculate the sum.**

1. if aList contains numbers, what does the instruction do?

print ("the sum of all items in the list is ", sum(aList))

**Calculate the sum of aList and print it with a label.**

1. Use the list frequency to calculate the numbers in the survey list. Do not use "if's" statements.

frequency = [0,0,0,0,0,0,0,0,0,0,0]

survey = [1,5,3,4,1,1,1,2,1,................]

**frequency[ survey[ i ] ] + = 1**

1. Write the instructions to
   1. add items to list names **names.append (item)**
   2. remove an item **names.remove (item)**
   3. traverse the list names

**letnames = names[0]**

**names[0] = names[1]**

**names[1] = letnames**

* 1. create a list of lists, twoLists **aList = [ [], [] ]**
  2. to print all the items of a list of lists, twoLists

**for x in range (len(alist)):**

**for y in range (len(alist[x]):**

**print (alist[x][y], end = ‘ ‘)**

**print ()**

1. Write the instructions to
   1. convert a string to upper case **astring.upper ()**
   2. convert a string to lower case **astring.lower ()**

1. Write python instruction or instructions for each flowchart shape.

**Oval– Start, Rectangle– print (‘Hi’), Parallelogram– counter = 5, Diamond– if counter == 5:**

1. Suppose var1 is 12 and var2 is 15, which statement (a or b) will print and why?

if var1 > var2:

print ("var1 is ...") #a

else:

print ("var1 is ...") #b

* 1. print statement a will print because var1 is equal to var2
  2. **print statement b would print because var1 is smaller than var2**
  3. print statement b would print because var1 is bigger than var2
  4. print statement a would print because 12 is smaller than 15
  5. nothing will be displayed

1. Design and implement an application that creates 100 random positive integers of values in the range 1 to 100 and then creates a chart showing how often the values appeared. The chart should look like the one shown here. It shows how many values fell in the range 1 to 10, 11 to 20, and so on. Print one asterisk for each value entered. You must use a list. Do not use if statement.

1 - 10 | \*\*\*\*

11 - 20 | \*\*

21 - 30 | \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

31 - 40 |

41 - 50 | \*\*\*

51 - 60 | \*\*\*\*\*\*\*\*

61 - 70 | \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

71 - 80 | \*\*\*\*\*

81 - 90 | \*

91 - 100 | \*\*\*

**def getRandomNums ():**

**integerList = []**

**for x in range (0,100):**

**num = random.randint (1, 100)**

**integerList.append(num)**

**return integerList**

**def getFrequency (aList):**

**frequency = [0] \*10**

**for x in range (len(aList)):**

**if aList[x] % 10 == 0:**

**if aList[x] != 100:**

**frequency [int(str(aList[x]))[0]) -1] += 1**

**else:**

**frequency[-1] += 1**

**elif len(str(aList[x])) == 1:**

**frequency [0] += 1**

**else:**

**frequency[int(str(aList[x]))[0]) ] += 1**

**return frequency**

**def printHistogram (frequency):**

**for x in range (len(frequency)):**

**print (‘%2s’ % (str(x)+’1’), ‘ – ‘, ‘%3d’ ((x+1)\*10), ‘|’, ‘\*’ \* frequency[x])**

**for x in range (1, len(frequency)):**

**print ('%2d' % (x), '\* ' \* frequency[x])**

**def main ():**

**integerList = getRandomNums ()**

**frequency = getFrequency (integerList)**

**printHistogram (frequency)**