**UNIT 5 – LOOP REVIEW**

1. Determine what the output displayed will be based on the Loop Structure:

for num in range(1,5):

print "Pass #", str(num)

Pass#1 Pass#2 Pass#3 Pass#4

1. A never ending loop is called a(n) **\_\_\_\_infinite\_\_\_\_\_\_\_\_\_\_\_\_\_\_** loop
2. \_\_\_\_\_\_\_\_\_loop\_\_\_\_\_\_\_\_\_ a block of code that is executed repeatedly
3. The first line of any loop is called the \_\_\_\_\_\_\_header\_\_\_\_\_\_\_\_\_
4. Determine what the output displayed will be based on the Loop Structure:

n = 3

total = 0

for i in range (1, n+1):

     total += i

print total

6

1. **\_\_\_\_\_nested\_\_\_\_\_\_\_ \_\_\_\_loop\_\_\_\_\_** is a loop inside another loop, there is an outer loop and an inner loop
2. Based on the for loop structure below, what will be the highest value displayed? Why?

for i in range (1, 5):

print i,

4 because the range goes one less than the value

1. The inner loop must run to **\_\_\_completion\_\_\_\_\_\_\_\_\_\_\_** before the outer loop can run its next iteration
2. Determine what is wrong with this Loop Structure:

# Display each number from 1 to 25

for j in range(1, 26, -1):

     print j

the – 1 it is an infinite loop

1. Determine what the output displayed will be based on the Loop Structure:

total = 0

num = 1

while num < 5:

     total += num

     num +=1

print total

6

1. **\_\_\_\_\_break\_\_\_\_\_\_\_\_\_** when it is executed the loop is immediately terminated
2. Determine what the output displayed will be based on the Loop Structure:

list1 = [2, 4, 6, 8]

total = 0

while list1:

     total += list1[0]

     list1 = list1[1:]

print total

22

1. Determine what the output displayed will be based on the Loop Structure:

num = 3

while num <=5:

   num += 5

print num

8

1. Determine what the output displayed will be based on the Loop Structure:

for j in range(2, 9, 2):

  print j,"-",

print "Who do we appreciate!!!!"

2-4-6-8-Who do we appreciate!!!!

1. A loop consists of a Condition Boolean Statement that is either **\_\_\_\_\_true\_\_\_\_\_\_\_** or **\_\_\_\_\_false\_\_\_\_\_\_\_**
2. When a Conditional statement is **\_\_\_\_\_true\_\_\_\_\_\_\_\_** the loop will **\_\_\_\_\_repeat\_\_\_\_\_\_**
3. A function that generates an arithmetic progression of numbers is: **\_\_\_\_\_\_list\_\_\_\_\_\_\_**
4. Before using the random function you must first **\_\_\_import\_\_\_\_\_\_\_** **\_\_random\_\_\_\_\_\_** **\_\_\_\_function\_\_\_\_\_\_** **\_\_\_\_\_\_\_\_\_**
5. Write a program that will sum the numbers between 1 and 5 (including 5).  The output should look like the following:

1 + 2 + 3 + 4 + 5 = 15

n = 5

total = 0

for x in range (1, n+1):

     total += x

if x<n:

print n,”+”,

else:

print n,“=”,total”

1. Write a program that will generate a random integer between 2 and 100 and then determine if the number is a prime number or not a prime number. Assume 2 is a prime number. The output should look like the following:

7 is a prime number

r = 101

for divisee in range (2,r):

prime = True

for divisor in range (2, divisee):

if divisee % divisor == 0:

prime = False

break

if prime:

print divisee,”is a prime number”