

# SI@UCF Python/pyGame For Loop Exercises - Part I

## **Part A: Copy Machine (copy.py)**

Pick your favorite message and ask the user how many times they would like it printed out. Then print it out that many times, in a numbered list, starting at 1.

## **Sample Program Runs**

Note: Computer output is in plain text while the user's input is in bold for these examples.

### **Sample Run #1**

How many times do you want the message printed?

**5**

Go Knights!

Go Knights!

Go Knights!

Go Knights!

Go Knights!

### **Sample Run #2**

How many times do you want the message printed?

**2**

Go Knights!

Go Knights!

**Note: You may choose whatever non-offensive message you like to print.**

## **Part B: New Year's Count Down (newyears.py)**

Ask the user for how many seconds they want to count down before new year's and print out a countdown from that number to 1, followed by printing, "Happy New Year!!!"

### **Sample Run**

How many seconds do you want in your countdown?

**10**

10 9 8 7 6 5 4 3 2 1

Happy New Year!!!

### **Part C: Sum Even (sumeven.py)**

Write a program that asks the user to enter a positive integer  $n$ , and calculates the sum of the integers  $2 + 4 + 6 + \dots + 2n$  and prints this total to the screen.

#### **Sample Run**

**Enter a positive integer.**

**5**

**The sum of the first 5 even integers is 30.**

Question: What relationship/pattern do you notice between the input value  $n$ , and the output sum? (Put your answer to this question in a comment in your code!)

### **Part D: Sum Odd (sumodd.py)**

Write a program that asks the user to enter a positive integer  $n$ , and calculates the sum of the integers  $1 + 3 + 5 + \dots + (2n - 1)$  and prints this total to the screen.

#### **Sample Run**

**Enter a positive integer.**

**5**

**The sum of the first 5 odd integers is 25.**

Question: What relationship/pattern do you notice between the input value  $n$ , and the output sum? (Put your answer to this question in a comment in your code!)