Lab 8 Worksheet (10 points)

Names and netIDs of the group members:

_____ _____

_____ _____

Consider this to be practice for the midterm. The problems come from different parts of the course. All of them are the type that may appear on the exam.

Problem 1: Unmangle the following code:

```
else :
if num %2 == 0 :
num = 0;
num = int(input("Enter a positive integer to start the sequence: "))
num = num // 2
num = num * 3 + 1
print (num, end=', ')
print (num, end=', ')
print('Your sequence is:')
while num <= 0  :
while num != 1 :
```

The original program prompted the user for a positive integer and then continued to calculate a sequence of numbers according to the following rules:

- if the number is even, divide it by 2
- if the number is odd, multiply it by 3 and add 1 and so on, until the value ends up being equal to 1.

Problem 2: Trace the output of the following programs. Make sure you are working on paper, **not** on the computer.

```
prices = [0, 10, 20]
for item_price in prices:
  item_price = item_price + 10
print (prices)
```

```
numbers = [6, 89, 76, 3, 13, 42, 84, 56, 39, 90, 42]
num = input("Enter a number from 0 to 100: ")
if num in numbers:
  print("Your lucky number is at position", numbers.index(num))
else:
  print("This is not a lucky number.")
```

Assume user enters 13 at the prompt.

```
numbers = [6, 89, 76, 3, 13, 42, 84, 56, 39, 90, 42]
num = input("Enter a number from 0 to 100: ")
if num in numbers:
  print("Your lucky number is at position", numbers.index(num))
else:
  print("This is not a lucky number.")
```

Assume user enters 55 at the prompt.

```
list = ["apple","pear","plum","banana","grape"]
for pos in range(len(list)) :
  print (pos, ": ", list[pos])
```

```
list = ["apple","pear","plum","banana","grape"]
list2 = []
for pos in range(len(list)) :
  list2[pos] = list[   len(list) - i - 1  ]
print(list)
print(list2)
```