Practice Quiz 3

1. For each of the following expressions, show the value that will be returned by the Python interpreter and list the type of the resulting value. Assume the following assignments:

```
mylist = ["dog", "cat", "pony", "goat"]
c = Circle(Point(100,130), 50)
r = Rectangle(Point(100, 100), Point(400, 200))
```

```
                                 VALUE              TYPE
                                 -----              ----


mylist[2] == "cat"


mylist[0]


r.getP1()


c.getRadius() == 50


c.getCenter().getX()
```

2. What is the output of the following program? Also, draw the stack as it would look just after the print y statement in myfunc.

```
def main():                          program output:
  w=9.3
  x=5
  y="hello"
  w=myfunc(x,y)
  print "w:", w
  print "x:", x
  print "y:", y

def myfunc(a,b):                     stack diagram:
  c = b * a
  y= "goodbye"
  print y
  # draw the stack here
  return c

main()
```

3. Consider the program shown below:

```
def main():
    test = "frisbee"
    check = "e"
    print helper1(test, check)
    print helper2(test, check)

def helper1(word, letter):
    for i in range(len(word)):
        if word[i] == letter:
            return i
    return -1

def helper2(word, letter):
    total = 0
    for ch in word:
        if ch == letter:
            total = total + 1
    return total

main()
```

(a) Define the term *argument* and give an example from the program above.

(b) Define the term *parameter* and give an example from the program above.

(c) Describe the steps that occur when a function call is executed. Use an example from the above program.

(d) What would be better names for `helper1` and `helper2`?

(e) What are the return types for `helper1` and `helper2`?

(f) What is printed when this program is run?

4. Write a function called `max` that takes two numbers as parameters and returns the largest of the two numbers. In the case that both numbers are equal, your program should return either of the parameters.

5. Write a function called `listMax` that takes a single list of integers as a parameter and returns the largest integer in the list.