

## Quiz 3

Name: \_\_\_\_\_

**Question 1.** For the following program, briefly describe what it does and draw a picture it might produce.

```
1 from graphics import *
2 from random import choice
3
4 alph = "ABCDEFGHJKLMNOPQRSTUVWXYZ"
5 colors = ["red", "green", "blue"]
6
7 gw = GraphWin("Q3", 200, 200)
8 p1 = Point(0, 0)
9 p2 = Point(50, 50)
10 first = Rectangle(p1, p2)
11 first.setFill("black")
12 first.setOutline("white")
13
14 for i in range(4):
15     for j in range(4):
16         block = first.clone()
17         block.move(i*50, j*50)
18         block.draw(gw)
19         RL = choice(alph)
20         letter = Text(block.getCenter(), RL)
21         letter.setTextColor(choice(colors))
22         letter.draw(gw)
23 gw.getMouse()
```

**Question 2.** Write a program that simulates rolling three 6-sided dice. Your program should roll the three dice, print the results, and keep rolling the dice until you get three-of-a-kind (e.g., all 2's, all 5's, etc). Your program should also keep track of and display how many rolls it takes (see below).

```
1: 4 4 6
2: 2 3 6
3: 1 5 5
4: 2 4 1
5: 2 5 2
6: 4 4 6
7: 1 2 5
8: 3 5 6
9: 4 2 5
10: 4 4 4
```

**Question 3.** Suppose you are writing a tic-tac-toe game, and have the contents of the game board stored in a python list. The only items in the list are either "x", "o", or " ". If the item is "x" or "o", that spot on the board has been taken. Here is one possible example of the game board:

```
board = ["x", " ", "x", "o", " ", "o", "x", "o", "x"]
```

Write a function called `notfull()` that has one parameter: a python list (like above). The function returns `True` if the board is not completely full, and `False` if it is full.

**Question 4.** Write some python code to ask the user for names, printing out quotes for each name the program recognizes. The code should keep asking until the user enters `quit`. See the example below (user input in **bold**) for what to print for each name, as well as what to print if it doesn't recognize a name. You do not need to worry about upper vs lowercase input.

```
name: luke
May the force be with you
name: han
I've got a bad feeling about this
name: luke
May the force be with you
name: c3p0
Huh?
name: leia
I'd just as soon kiss a Wookiee
name: pony
Huh?
name: quit
```