Name: _____ **Section:** 2 (7th-8th) or 3 (9th-10th)

Use this quiz as a way to follow the lecture. ***Answer all questions.*** Make additional notes as desired. ***Not sure of an answer?*** Ask your instructor to explain further ***right then.***

1. What gets printed by the program shown to the right?

   (Pay close attention to the order in which the statements are executed. Write the output ***in a column to the right of the program.)***

```
def main():
    hello()
    goodbye()
    hello_and_goodbye()
    goodbye()

def hello():
    print('Hello!')

def goodbye():
    print('Ciao!')

def hello_and_goodbye():
    print('Here is stuff!')
    goodbye()
    hello()
    hello()
    print('Here is more!')
    hello()
    goodbye()

if __name__ == '__main__':
    main()
```

Output

2. For this problem, assume that the function to the right works as its doc-comment suggests and is in the same file in which you are writing code.

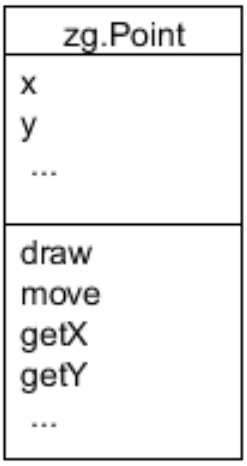
```
def number_of_primes(m, n):
    """
    Returns the number of primes
    between m and n, inclusive.
    """
    ...
```

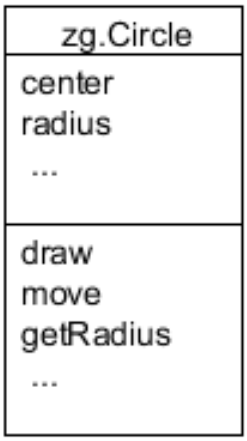
   a. Write statement(s) that print the number of primes between 40 and 300, inclusive.

   b. Write statement(s) that set the variable ***total*** to the sum of the number of primes between 100 and 200 and the number of primes between 700 and 800.

3. Each diagram to the right is called a

   _____





4. ***zg.Point*** and ***zg.Circle*** are called _____ (hint: begins with a "c").

5. ***Instances*** of ***zg.Point*** and ***zg.Circle*** are also called

   _____ (hint: begins with an "o").

6. Write a statement that constructs a ***zg.Point*** at (50, 30) and assigns a variable **p1** to refer to the constructed ***zg.Point***.

7. Write a statement that causes the above variable **p1** to move by 10 in the y direction.

8. Write a statement that sets the variable ***s*** to the sum of two of p1's instance variables: the one called x and the one called y.

9. Suppose that the Dog class is defined in a module called animals. Fill in the blank in the following statement so that it constructs a Dog.

```
d = animals._____()
```

10. Functions are powerful for two reasons (fill in the blanks – you can be brief):

    a. _____

    b. _____

11. The code in the box to the right has illegal syntax – Python displays a Red X error message. Why?

```
def main():
    foo()
    print(n)
    print(m)

def foo():
    n = 3
    m = 1
    return m
```