CSCI 107, Second Practicum – Friday, October 24, 2014

Name _______________________________________________________________

Question One. 20 points. Find the statistics module in the Python online document. Replace the question marks in the code below so that when the code is run, it prints the most frequently occurring number in the list of numbers.

```python
import statistics

numbers = [1, 2, 3, 4, 5, 4, 6]

print(statistics.mode(numbers))  # should print 4
```

# should print 4
Question Two. 20 points. Assume that the definition of the 21st century is all years starting with 2000 and going to 2099. Try changing the variable year to 1999, 2000, 2001, 2099 and 2100. Notice that the code below does not always produce the correct answer. Change just the condition in the if statement so that 21st century years are identified correctly.

```python
year = 2014
if (year > 2000) or (year < 2100):
    print(year, "is in the 21st century")
```
Question Three.  30 points. In a simplified game of Monopoly, assume the rent for Boardwalk is 50 if the property contains 0 houses, 200 if the property contains 1 house, 600 if the property contains 2 houses and unknown otherwise.

Write a Python function named `boardwalk_rent` that produces the correct answers when the statements below are run.

```python
print(boardwalk_rent(0))  # should print 50
print(boardwalk_rent(1))  # should print 200
print(boardwalk_rent(2))  # should print 600
print(boardwalk_rent(3))  # should print unknown
```
Question Four. 30 points. A decagon is a 10-sided polygon. When the code below is run, it should draw a Halloween decagon where the color of each individual side in the decagon is determined randomly. A side should have a 50% probability of being “orange” and a 50% probability of being “black”.

```python
import turtle
import random

# decagon function -------------------
def decagon(some_turtle, length):
    for i in range(10):
        # missing statements go here
        some_turtle.forward(length)
        some_turtle.right(36)

# decagon function is now complete ----------
my_turtle = turtle.Turtle()
my_turtle.pensize(10)
decagon(my_turtle, 50)
```