Junior Knights Week #5 Python Homework: For Loop and Turtle

Part A: Sum Even (sumeven.py)

Write a program that asks the user to enter a positive integer n, and calculates the sum of the integers $2 + 4 + 6 + \ldots + 2n$ and prints this total to the screen.

Sample Run

```
Enter a positive integer.
5
The sum of the first 5 even integers is 30.
```

Question: What relationship/pattern do you notice between the input value n, and the output sum? (Put your answer to this question in a comment in your code!)

Part B: Sum Odd (sumodd.py)

Write a program that asks the user to enter a positive integer n, and calculates the sum of the integers $1 + 3 + 4 + \ldots + (2n - 1)$ and prints this total to the screen.

Sample Run

```
Enter a positive integer.
5
The sum of the first 5 odd integers is 25.
```

Question: What relationship/pattern do you notice between the input value n, and the output sum? (Put your answer to this question in a comment in your code!)

Part C: Donation Collector (donation.py)

Write a program that asks the user how many donations they are going to collect and then asks them to list the value of each donation, in dollars. Finally, print out the sum of the donations gathered.

Sample Run

```
How many donations are you collecting?
4
How much is donation #1, in dollars?
25
How much is donation #2, in dollars?
10
How much is donation #1, in dollars?
50
How much is donation #1, in dollars?
5
You have collected a total of $90.
```

For the following parts of the assignment, make sure to consult Python's Turtle documentation here:

http://docs.python.org/library/turtle.html

Part D: Turtle Triangle (turtletri.py)
Write a program that uses the turtle and draws one triangle!

Part E: Turtle Spiral Triangle (spiraltri.py)
Write a program that asks the user to enter the number of sides in a spiral triangle and then prints out a spiral triangle, very similar to the spiral square shown in class with the appropriate number of sides.

Part F: Turtle Your Name (myname.py)
Write a program that uses the turtle to print out your name. If your name is very long, then just print out your initials. Make guesses for the angles you have to turn, run your program and adjust as necessary.

Part G: Fun Turtle Design
Make any design with the turtle that you want to!!!