Assignment #7
More Loops and Functions
Due: Sunday, 11/06/16, 11:59pm

You need to use the TAs office hours and class exercise groups to get extra help in understanding the material and what is required from an assignment or lab!!!

In this assignment, you will design a computer program using sequential, conditional, looping, and functions. **You are not allowed to use the built-in write() function in this assignment.**

(100 pts) First, choose 6 letters to draw using ASCII art. Now, write a program to draw a different word to the screen in ASCII art, each time the user enters a string containing any of the 6 letters you chose to support. I would highly suggest you use graphing paper or some kind of paper to design what will be needed to get the letters to be drawn in ASCII art.

You can have the ASCII art be any variation of upper and lower case letters, but you must accept strings of both from the user. You must prompt the user for a string of letters and draw the ASCII art horizontally to the screen that corresponds to the user's string. **You need to continue to do this until the user wants to quit. You also need to make sure you ask the user for a different string, if their string contains letters you do not support in your program.**

For example: If I choose C, A, and T as 3 of my 6 letters, then you could have one word entered by the user be CAT to draw CAT to the screen.

Enter a string: **Cat**

```
****
*
*
****
   *
  * *
 *****
*     *
*****
  *
  *
  *
```

Press q to quit (or anything else to draw another string): r
Enter a string: **AT** (AT is drawn in ASCII art)
Press q to quit (or anything else to draw another string): q

Other Program Requirements: Each letter must be in its own function, and the only global statements is the call to the main function.

Begin by designing you program using these steps, and write steps 1, 2, and 4 on paper or in a text editor. Then, implement the program using Python.

- **Step 1: Problem Analysis**. (10 pts)
  a. Comments about the problem to aid in understanding it.
  b. Description of the knowledge base (this list would include what you would be expected to know to follow the solution).
- **Step 2: Program Design**. (30 pts) List the specific steps needed to get your turtle to draw your name on the screen, upon a user mouse click. Remember, you have to be very explicit here to make sure the computer can accomplish the task using your directions.
  1.
  2.
  ….
- **Step 3: Program Implementation**. (50 pts) This is the Python code that moves your turtle around the screen to draw a star draw your name, i.e. your .py file that gets saved before running your program.
- **Step 4: Program Testing**. (10 pts) This is the Python code that moves your turtle around the screen to draw a star draw your name, i.e. your .py file that gets saved before running your program.

Extra Credit: (10 pts)
Draw the ASCII art vertically to the screen!!! **Hint:** Think about having the same number of lines for each letter and drawing tops, middle, and bottoms as separate functions for the letters.

Electronically submit your Python program **as a .py** and design document **as a pdf** by the assignment due date, using TEACH:
https://secure.engr.oregonstate.edu:8000/teach.php?type=want_auth