CSC 117: Assignment One

Conjured up by Professor Stonedahl

The Owl Racing Game... (almost as much fun as Quidditch?)

Start by downloading the Assignment1 starter code from Moodle. Unzip/extract the ZIP file. Don't just "open" it... you really need to *extract* it. (Ask if you need help.)

Game specification:

1) Your program should print out a welcome message, and some instructions for the player.
2) Your program should ask for the number of owls that will be competing.
3) Your program should then (in a LOOP, once for each owl)
    A) ask for the name of each owl
    B) tell the user that the owl is beginning to fly
    C) choose a random distance for the owl to fly
    D) visually show the owl flying that far, by repeatedly printing blank lines, followed by bunch of spaces followed by an "ASCII art" owl. (Can you do better than `*v*`?)
    E) tell the user the number of yards traveled by the owl
4) Once all the owls have flown, tell the user that the race is finished.

Successfully completing the above will secure you a B.

For an A-/A, you must use well-chosen variable names, and write helpful comments (using #) throughout your code to explain how things works.

For an "A+", after all of the owls have flown, your game must announce the name of the winning owl (who flew the farthest) and how far it flew. This is tricky, and you will probably need to use something like an *accumulator pattern* to keep track of the best owl and distance flown so far, and an `IF` statement (you may have to read ahead in the textbook, or search online) to compare whether each owl's distance is further than any who flew before it.

For extra credit, do something amazing that impresses me.

Some useful ingredients:

To generate a random number for each owl's flying distance, you'll need to use one of the methods in the python "random" module. Near the top of your program you need to have `import random` so that below you can use `random.randrange(...)` to get a random number.

To ask the user for a *number*, use `input`, but to get a *string* (without the user having to type quotes), use `raw_input`.

I'm providing you with two pre-written functions: `printSpaces() & printBlankLines()`

Software architecture note: Splitting these repetitive printing tasks into separate *functions* is a good design choice, because it splits the problem into smaller easier subproblems. You can also test these functions separately to make sure that they work, before writing the rest of the code. It's almost ALWAYS better to build up a program one WORKING piece at a time.

Get help if you need it! I'm happy to help. Drop in. You're also encouraged to help each other, although check the course syllabus for guidelines to remind you what level of assistance is ok. Also, don't forget about our class Q&A site! http://babbage.centre.edu/

Start early! A good rule of thumb is that writing software takes 10 times longer than you expect. (Often it's **10% writing**, and **90% debugging** – i.e., trying to fix the program so that it works...)

IMPORTANT: You should start with the template file that I have provided to you, and fill in all the appropriate information in the header comment at the top of your program:

EXAMPLE OUTPUT: Running your game should result in something like this, although your owls should be flying much further than 2 or 3 yards.

```
Welcome to Owl Racing!
[print some instructions here]
[feel free to spice things up with a story line]

How many owls in the race?  2              ← typed by the user

What is the next owl's name?  Hedwig       ← typed by the user!
The owl Hedwig is taking off!
[[many blank lines to help simulate motion]]
*v*
[[many blank lines to help simulate motion]]
 *v*
[[many blank lines to help simulate motion]]
  *v*
[[many blank lines to help simulate motion]]
   *v*

Looks like Hedwig went 3 yards!

What is the next owl's name?  Hooter       ← typed by the user!
The owl Hooter is taking off!
[[many blank lines to help simulate motion]]
*v*
[[many blank lines to help simulate motion]]
 *v*
[[many blank lines to help simulate motion]]
  *v*
Looks like Hooter went 2 yards!

[For the A+: And Hedwig is the winner, having flown 3 yards!]
Well, that's it for today's owl race... thanks for watching!
```

"Short-Eared Owl"
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Due date: **Friday, September 20**

Grade scale: **20 points**

Satisfaction you get when your owls finally fly: **Priceless**