CS 1301
Homework 10 – Write a Program!
Due: Monday, December 6th, before 6PM EST
<u>There is NO late submission!</u>

THIS IS AN INDIVIDUAL ASSIGNMENT!
You should work **individually** on this assignment. You may collaborate with other students in this class. Collaboration means talking through problems, assisting with debugging, explaining a concept, etc. You may not exchange code or write code for others. For individual assignments, each student must turn in a unique program. Your submission must not be substantially similar to another student's submission. Collaboration at a reasonable level will not result in substantially similar code to another students assignment.

Files to submit:
1. myProgram.py

For Help:
· TA Helpdesk – see class website
· Email TAs

Notes:
- **Don't forget to include the required comments and collaboration statement** (as outlined on the course syllabus). **Failure to do so will result in no credit for the assignment!**
- **If any error messages pop up when your TA hits "Run Module" in IDLE to grade your homework files, you will lose 50% of your points!**

Write a Program! (100 points)

Your TAs are bored! Your mission for this assignment is to come up with something interesting written in Python. This program may involve your robot if you wish, or it may not. Heck, it doesn't even have to involve the Myro module at all if you don't feel like it! Remember, this is an individual assignment, so everyone should have different programs!

Note: You will present your program idea to the class in workshop as part of the topic of your powerpoint lab.

Grading criteria:

- **(25 pts)** Your documentation (comments, variable names, etc.) should explain what the program is, what it does, how the logic behind it works, and what gave you the idea for it. Your submission should include some sample input and output if needed to demonstrate your program.

- **(40 pts)** Your program should demonstrate that you understand and are proficient with fundamental CS principles such as:
  1. Variables, types, and function calls.
  2. Looping and conditional execution.
  3. Getting input and making output (either on screen, with files or HTML pages, or using the robot)
  4. Compound data types (lists, tuples, dictionaries, strings – note that you don't have to use all of them, just convince us you know how to index into sequences and maybe throw in a dictionary if your problem can use one.)
- **(30 pts)** Your program should function correctly without any errors, following the specifications you set for how it should work.
- **(5 pts)** Your program should do something useful, or something that is cool, or something that is both useful AND cool!
- Up to an additional **ten points** of extra credit are available for really awesome programs.

Idea Hints: If you can't think of something you want to do, here are a few suggestions:
- Make a program that allows you to control your robot's actions by showing it colored markers or barcodes.
- Write a program that tells jokes, or pretends to be human.
- Grab some data (from your robot, the user, or the web) and use it to write a webpage.
- Write a program that solves a homework assignment for one of your other classes (Chemistry electron valence levels, physics gravity calculations, etc)
- Write a program that plays or solves a game or puzzle.
- Write a game where you have to direct a princes to save the kingdom!
- Write a game of 20 questions that guesses the object the user is thinking of.
- Write a nontrivial program using the urllib module!!
- Write a screensaver.

Turning it In:
Please submit your file, myProgram.py and any other additional files needed to T-Square before the deadline. If you feel the TA needs additional notes to run/fully enjoy your program, feel free to submit a readme.txt file explaining anything you want.