

CS 1301 – Spring 2009

Homework 3 – Getting to know your robot

Due: Wednesday, Jan 28th at 6 PM

Out of 100 points

Files to submit: 1. hw3.py

For Help:

- TA Helpdesk – Schedule posted on class website.
- Email TAs

Notes:

- **Don't forget to include the required comments and collaboration statement (as outlined on the course syllabus).**
 - **Do not wait until the last minute** to do this assignment in case you run into problems.
 - If you find a significant error in the homework assignment, please let a TA know immediately.
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Part 1 – Dance, robot, dance! (55 points)

Hopefully by now, you've gotten your robot out of the box and made friends with it (or at least acquaintances); given it a name and a back story. Well, how about now you take it out to a dance?

Of course, you'll have to teach your robot to dance. Using the movement functions:

http://wiki.roboteducation.org/Myro_Reference_Manual#Movement_Functions

have your robot do a little dance. The dance should last for at least seconds, and contain at least 3 distinct dance moves, ie don't just go back and forth for 30 seconds; vary the dance a bit. Pretend you've got a spastic robot. In addition to the movement, your robot should also make some noise! The **beep()** function is very helpful – it allows the robot produce various tones. You are allowed (and encouraged) to make your own helper functions that contain individual dance moves.

Write your dance as a function called **dance()**, and save it into a file called **hw3.py**. As always, please name your file exactly as requested.

Part 2 - Conversions (45 Pts Total, 15 for each subpart)

Section A – Area (15 pts)

Part 3 – Turning it in

Once you're done, please submit ONE file, hw3.py to T-Square. If you submit each function in a separate file, you will lose 10 points! The assignment is due Wednesday, Jan 28th before 6pm. If you're late, but turn it in before 6pm on Friday, you will lose 10%. We will not accept submissions after Friday.

Remember – if there are errors in a part of the homework, you will lose 50% credit for that particular part. If your file fails to run at all, you will lose 50% credit for the entire homework. Please test your code thoroughly!

Part 4 – Grading Rubric

Part 1 – Dance – 55 points

- Function named correctly (dance) – 5 points
- Dance lasts for at least 30 seconds – 20 points
- Contains at least 3 distinct moves – 15 points
- Robot beeps – 10 points
- Creativity – 5 points

Total for part 1: 55 points

Part 2 – Conversions – 45 points

Part A – 15 points

- Function named correctly (area) – 5 points
- Performs correct conversion – 5 points
- Returns the value – 5 points

Part B – 15 points

- Function named correctly (volume) – 5 points
- Performs correct conversion – 5 points
- Print statement containing values to 2 decimal points – 5 points

Part C – 15 points

- Function named correctly (monkeys) – 5 points
- Performs correct conversion – 5 points
- Print statement containing values to specified decimal points – 5 points

Total for part 2: 45 points

For a grand total of 100 possible points.

You can earn up to 5 points bonus [discretion of the TAs] for extra creativity/general awesomeness, for a possible total of 105/100.

Written By: Melody Nailor, Spring 2009