CMSC 143: Object-Oriented Programming with Robots
Lab 3: Programmable Behavior
Due Februrary 20, 2014

Chapter 6 of the textbook discusses ways to make your robot exhibit different types of behavior. In this lab you are asked to implement the four behaviors listed below. You should work in teams of two people, but each person should submit a copy of the program. **You should work together on each behavior.**

Each behavior should be programmed as a function that runs for a specified amount of time in seconds using the `for` and `while` methods we discussed in class (each should be used at least once). Myro's `currentTime()` method is very useful for the `while` loop based approach.

Each team member should submit a copy of your python program (cmsc143_lab3_NAME.py) on moodle. Your program should have your name(s), email(s), and the date at the top of the file as a comment.

Learning Objectives

◦ Create robot behaviors.   ◦ Use if statements.   ◦ Use while loops.   ◦ Program in pairs.

Behaviors

1. `lightSeeker(time)`
   A robot behavior that runs toward the light (`getLight()`).

2. `avoid(time)`
   A robot behavior that runs away from obstacles triggered by the infrared detectors (`getIR()` or `getObstacle()`).

3. `securityGuard(time)`
   Do you have a feeling your roommate is snooping through your desk drawer? Write a program that detects if the drawer is opened and takes and saves a picture of the offender and then beeps loudly. NOTE: sometimes the light sensor will report 0 in total darkness.

4. `digitalCamera(time)`
   Write a function that takes and displays a picture when the light sensor is pressed. The left light sensor should take a color picture (`takePicture()`) and the right sensor should take a gray-scale picture (`takePicture('gray')`). Feel free to say "Cheese" before snapping the picture.