CMSC 143: Introduction to Object-Oriented Programming with Robots

# Lab 3: Programmable Behavior
# Due February 14, 2011

Chapter 6 of the textbook discusses ways to make your robot exhibit different types of behavior. In this lab you are asked to implement three of 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. You can use the `currentTime()` function as often as you would like, but you can use the `timeRemaining()` function only once.

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 (pick three)

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.