Lab 3 – Microcontroller programming
Interfacing with Sensors and Actuators with iRobot
EE124 – Introduction to Embedded Systems

Name: _____ Lab: _____

Date: _____

PRELAB EXERCISES

Read through the iRobot documentations posted on the iRobot page on the course webpage (http://chess.eecs.berkeley.edu/eecs124/iRobotDocs/index.html). There are a lot of documents; make sure you at least looked at them and know what's in which document. It will be useful to have a general idea so when you need to reference the documents you know which one to look at.

1. **Understanding the platform:**
    a. Which microprocessor is in the command module?
    b. How many sensors are on the bottom of the iRobot? Given the placement of some of the sensors, what problems might this cause?
    c. How many ports in the command module can be used for analog inputs? Digital?

2. **Understanding the protocols:**
    a. What sequence of bytes would you need to send to the iRobot to make it drive forward (velocity and radius values can be arbitrary)?
    b. What is the command sequence for reading sensor data from the iRobot?