Assignment 3
Due: Friday, January 7, 2005, 11:45 pm

1 Workshops available

Don't forget to sign up on the sign up sheets in the 6th floor lab—certain workshops have limited space. The workshops run from 1 to 3 pm, and 7 to 9 pm. Each workshop lasts for an hour and begins on the hour.

- No workshops for the remainder of this week

- Workshop 5 – Servos, Sensors, and Shaft Encoders
    - When: January 10-11, 2005
    - Items to Bring: Handy Board with Expansion Board

- Workshop 6 – Advanced LEGO Techniques
    - When: January 10-11, 2005
    - Items to Bring: Legos!

- Workshop 7 – Advanced Code Office Hours
    - When: January 10-11, 2005
    - Items to Bring: Questions for TAs

2 Your Task: Romeo and Juliet

1. Read every word of this assignment. There are a lot of details you should know, and every year we find contestants making the same mistakes.

2. You will now extend the robot you made for Assignment 2 to be able to home into a given location on the playing table. We will place a color swatch on your robot and will then place one on the table. From any point on the table you should be able to drive to the color swatch on the table. Your code should begin like this:

```
void main() {
  rf_team = 0; /* For this assignment, EVERYONE is team 0 */
  rf_enable();

  start_machine();

  /* your code goes here! */
}
```

For the purposes of this assignment, you should assign your robot to team 0. You may assume that your robot's position will be in `rf_x0` and `rf_y0`, and that the target's position will be in `rf_x1` and `rf_y1`.

3   Checkoff

The Organizers and TAs want to see a demonstration of your robot using the coordinate system with the RF. After setting up your robot to home in on the color swatch, a staff member will move the swatch around, and will expect your robot to exhibit the appropriate behavior.

We realize we are asking a lot of you within the first week—if you absolutely need more time, do not hesitate to ask your Organizer and TA. We will be flexible. But realize that every extra day you spend working on these assignments, the less possible time you could have working on your real robot. We figure, however, that after having made a complete robot by the end of this week, you will be ready to tackle the actual competition, and create something truly beautiful and elegant.