6.270 Problem Set 1

January 7, 2000

Designing your AI is half the battle. Good design is often what makes the difference between victory and defeat! Unfortunately, since the controller boards are coming in late this year, you will have less time than usual to code your robot. But have no fear! Planning ahead will greatly help you when you actually start coding.

Here are some exercises which we hope will help you to think about the design of your robot AI.

Please turn in your completed problem sets to the lab office by lab closing on Tuesday (Jan-11-2000).

Matt Deeds `<mdeeds@mit.edu>` and Kenneth Lu `<kenlu@mit.edu>` will be looking over your problem sets and providing feedback. Please email them with any questions or comments you may have.

1 Problem 1

Write up a general strategy you are considering (in English and/or diagrams).

2 Problem 2

Draw a flow chart of your strategy, with brief explanations of what the various states represent.

3 Problem 3

Write about what you plan to do for robustness. (This includes physical characteristics in addition to AI code.) List what your robot will do when faced with unexpected (or undesired) situations. (i.e. Bumping into the other robot, getting caught on a crack in the table, etc.) Mention how you plan to prevent your robot from getting confused and stuck.

4 Problem 4

Talk to each other and the staff a lot about your design!