

PROJECT 2

Due date: April 03 2:20pm

PROJECT DESCRIPTION

In this project, you will develop three patrol functions for LEGO robot by using Visual Programming Language (VPL). They will help you gain a good understanding of how to plan the advanced motion of robot and how to use specific drive service to manipulate simulated device. Three major functions are required in the viewer.

1. **Regular Patrol:** You need to develop a patrol function to lead a robot to patrol following the path shown in Fig. 1. (30%)
2. **Random Patrol:** You need to develop a patrol function to lead a robot to patrol following a random path shown in Fig. 2. (30%)
3. **Orthogonal-random Patrol:** You need to develop a patrol function to patrol following a random and grid-like path shown in Fig. 3. (30%)
4. **Extra Credits:** The following works may obtain up to 10% extra credits.
 - Develop an advanced patrol function different from above functions.
 - Use prompt dialog to enrich the interaction between user and the computer.
 - Other extra work that can improve the functionality of above functions.

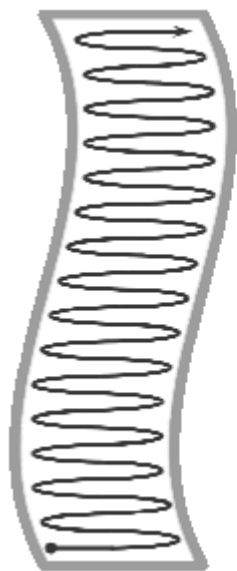


Fig. 1

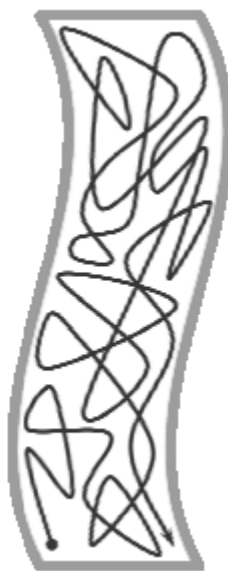


Fig. 2

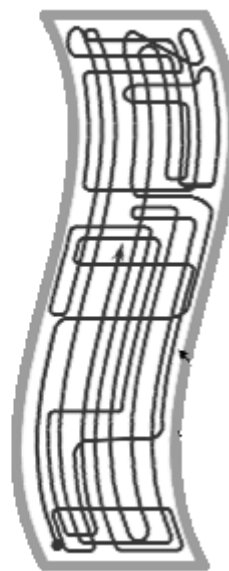


Fig. 3

GRADING

This project will be graded primarily on the program output. I will grade your projects by running them through various tests. Written report is also graded as 10% of the total score.

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WRITTEN REPORT

In the written report, you have to briefly explain the major functions or classes you have developed and list the snap shots of the drawing (at least one for each function). If you would like to obtain extra credits, please also list the additional works you have done.

DEMO AND SUBMISSION

The program will be demoed in the class of April 03. Each group has to submit a written report and source codes (please zip the source codes of whole project) to TA's email account (hlchi@caece.net) before the due date. Late submissions need be approved by the instructor, but the grade may be subtracted 10% for each additional day.