Matlab toolbox for iRobot Create can download from the following website, which also provides user guide.

<http://web.mae.cornell.edu/hadaskg/CreateMATLABsimulator/createsimulator.html>

For installation, please install the **modified** version of the toolbox containing in this folder. One function for returning distance to wall is added, which will be used by the program.

Matlab code is in “\5-1-wall\_follow\_full”. After open the simulator, load “map\_maze.txt” for map, click start to load file “icreate.m”.

The program consists of three major components: Sensors, Controller, and Robot. “Sensors” is triggered by a timer every 50ms, and “Controller” is triggered by a timer every 100ms. “Sensors” collects readings from different sensors, and “Controller” uses the sensing data to command robot. Robot is in charge of localization, planning algorithms and switching robot to different modes in response to various events.

The code is a little messy. If you have any problem running it, please contact me at [yusw@purdue.edu](mailto:yusw@purdue.edu)