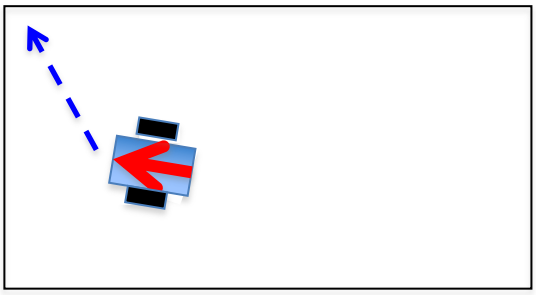
The University of Western Australia
Dept. of Electrical & Electronic Engineering
Prof. Thomas Bräunl

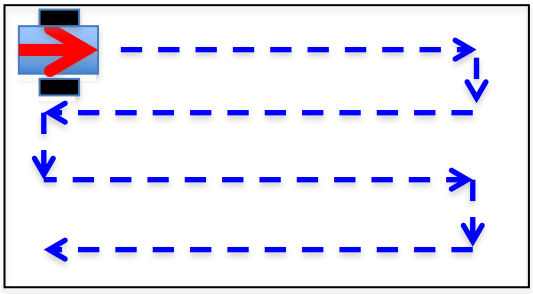
Mobile Robots
AUTO4508

Lab Assignment 1 – *Individual* – Robot Driving **Points: 10**

EXPERIMENT 1 (5 points)

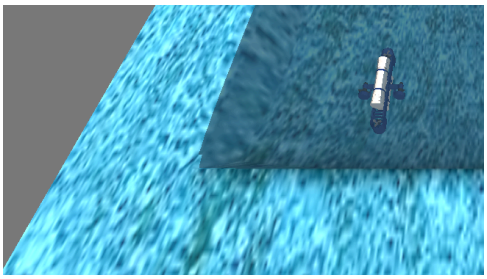
The robot is starting in a **random position and orientation** near the middle of a rectangular driving area.
First, drive the robot straight and collision-free close to the wall in front, then turn to the right, so it is parallel to the wall (at the robot's left-hand side) in about 15cm distance.
Second, let the robot drive a "lawnmower pattern", covering the whole surface area
Combine this with exp.1, so the robot will start from a random position and orientation. The robot should detect the end of the area and stop there.
Plot your robot's path using the "trail" setting.

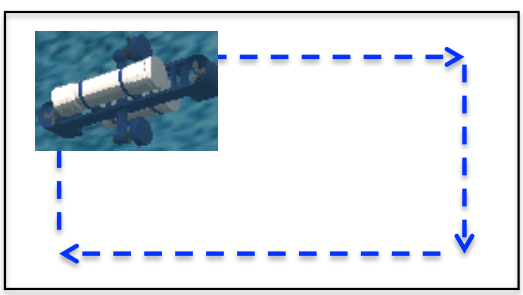




EXPERIMENT 2 (5 points)

A submarine is placed in a **random position and orientation** in a rectangular pool. Navigate it to a corner using a similar method as before,
Then, perform a wall following operation as shown below, keeping a constant distance of about 15cm to the walls. Do one full lap around the pool border.
Plot your submarine's path using the "trail" setting.





if cornerCount == 4 {stop}