The University of Western Australia
Dept. of Electrical & Electronic Engineering
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Robotics
GENG5508

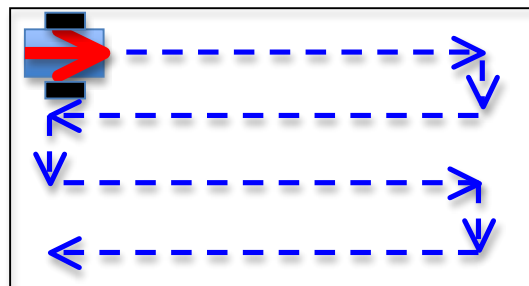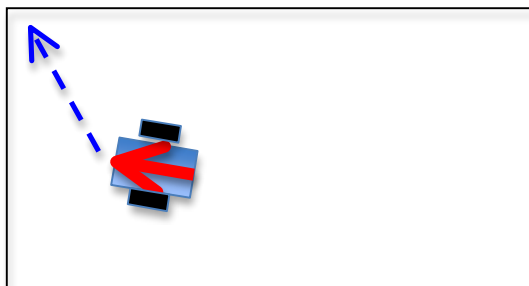**Lab Assignment 1 – *Individual* – Robot Driving**   **Points: 10**

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.