

Fachbereich Informatik
Lehrstuhl Informatik XII
Olivera Jovanovic, Birgit Sirocic
(Olivera.Jovanovic@udo.edu, Birgit.Sirocic@udo.edu)

7. Embedded Systems Lab Exercises

1. Task:

The robots will now learn to play “Follow-The-Leader” by using the IR port of the RCX unit. One robot, the leader, sends messages to all other units via its IR port. Program your robot to wait for these messages and react to them according to the table given below. You can find the required commands in the `nqc` Programmer’s Guide.

Message	Left Motor	Right Motor
0	reserved	reserved
1	off	off
2	off	fwd
3	off	rev
4	fwd	off
5	fwd	fwd
6	fwd	rev
7	rev	off
8	rev	fwd
9	rev	rev

2. Task:

Use the new NXT robots with sonar sensors. Make your robot follow your hand. As long as the sonar sensors detect your hand at a distance of approximately 20 to 30cm, the robot follows your hand. Otherwise it stops. Let the robot drive backwards when your hand is too near (approximately 10cm).