

## **Written assignment 1: Implementing a simple behavioural robot using Lego's graphical programming language**

### **1 The task**

You are going to implement a robot based on the principle of behavioural robotics as it is outlined in the first two chapters of [Jones] using the Lego sets and Lego's own programming language.

The task is described in "Exercise for course day 2, 11-feb-2009", which also gives some different technical advice.

If you have time, you may include also the optional parts described in section 4 of the mentioned exercise, but if you have lack of time, it is better to make the basic parts of the exercise thoroughly.

### **2 The written assignment**

Write a small report describing your solution, 4 to 7 pages of text, but you may make use of more space if you have lots of pictures.

The text should be self-contained such that you or a fellow student will be able to read it separately also some months from now. (You can expect the reader to know the basics of Lego Mindstorms sets and Lego's programming language, but it is a good idea to review the task being solved very briefly).

You may use screen dumps or pseudo-code to document the software part of your solution. If you have made some original hardware solutions, a photo may be effective for describing it.

### **3 Requirements**

This and the other written assignments given during the course are also your preparation for the exam. At the exam, you will be asked to explain one or more of your written assignments. Notice, however, the exam is oral so the assignments themselves are in principle not assessed at the exam, but all experience shows that there is a direct correlation between the quality of a student's oral presentation and the quality of the written assignments.

You are allowed to, and even expected to, work in groups of two to three students in producing a solution, but the short report must be written by yourself. Please indicate in the report with whom you have developed solution.

If you use pictures (or citations) borrowed from elsewhere, please make proper reference so that your assignment may possibly be published on the course website.

You need to deliver in *three printed copies* of your assignment in Henning's physical mailbox in 43.2 (next to Heidi's office). Send also a *pdf version* to [henning@ruc.dk](mailto:henning@ruc.dk) (avoid compressing the file!).

Deadline is *Friday, February 20, 2009*.

### **Literature**

[Jones] Joseph L. Jones: *Robot programming, A practical guide to behavior-based robotics*. McGraw-Hill, 2004.