

## Introduction to Multi-Agent-Programming

B. Nebel, A. Kleiner  
C. Dornhege, D. Zhang  
Winter Semester 2008/2009

University of Freiburg  
Department of Computer Science

### Exercise Sheet 5

**Due: December 3rd, 2008**

#### Exercise 5.1 (JADE, FIPA, and Contract Net)

(a) **JADE bookTrading Example (1pt; written)**

In JADE, there is a “bookTrading” example. Use a contract map(**with concrete messages**) to describe the behaviors of the buyer and the seller.

(b) **Steal the highest price (1pt; programming)**

Based on the bookTrading example, change the behaviors of the agents according to the following descriptions.

The buyer will reject the proposal unless the price is no more than an acceptable price (predefined).

The seller will inform “sold” unless the price cannot be added more than 1 [Euro].

#### Exercise 5.2 (Communication Subsystem)

(a) **Implement a communication subsystem (0.5pt; programming)**

Fill out the missing features marked by TODOs in the com base code.

<http://www.informatik.uni-freiburg.de/~ki/teaching/ws0809/map/com.tar.gz>

Note: You will have to make the tell() method in Agent.java public for this to work.

(b) **Implement the IDToken and IDListToken classes for later use. (0.5pt; programming)**

Assume an id is a 4 byte integer and use little endian encoding.

For the IDList start with 1 byte encoding the number of ids and then list the ids.

**Please send your solution to dornhege and zhangd @informatik.uni-freiburg.de**

*Note: We encourage you to submit the written solution in a **pdf** file. The latex template is available at the exercise web page.*