

CISC 7412 Fall 2011, Homework 4

1. Give an example of each of the following types of speech act:

- (a) a representative
- (b) a directive
- (c) a commissive
- (d) an expressive
- (e) a declaration

You may **not** use any of the examples from the slides.

(15 points)

2. The notes explain at length how the contract net can be used as a mechanism for task allocation.

Given an example of a use of the contract net. You should come up with a plausible scenario from a domain with which you are familiar, explain the scenario, and the task being allocated. You should explain how the contract net is used to do task allocation in that scenario. Your description should cover all the stages of the contract net.

(20 points)

3. Using the model from pages 21–22 of the notes for Lecture 6, explain the calculation carried out by one of the agents in your answer to question 2, and relate this to its decision as to whether or not to bid.

Explain how this decision might change if the task being allocated was different.

(20 points)

4. Write down a dialogue between four agents, using the FIPA ACL, that could occur in the scenario you explained in question 2.

Your answer should include the content of all performatives, and you should explain what each agent is achieving with each performative that it passes, in terms of the mental state of the other agents.

(30 points)

5. Give an example of an interaction between agents where inconsistency in their beliefs is problematic. How might this inconsistency be resolved?

(15 points)