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HKGAB4 - Lab 5-6

Linköping University
IDA
CogSci Line

Lab 5-6 : Conditionals and Biconditionals

1 Goal

The goal of these labs is to continue studying connectives in propositional logic. In particular, we focus on

- extending our language to include the material conditional and biconditional connectives.
- Studying several new methods of proof, in particular, conditional proof.

2 Preparation

The following should be done before the actual lab session:

- Read Chapter 4.
- Prepare as much as possible for the problems below. For example, if some involve translation, do the translations ahead of time.

3 Lab Exercises

The following lab exercises are obligatory and should be done and saved on your diskettes (See the following section for additional information). For those of you using the IBM PC version of Tarski's World, use the names under the IBM column.

Exercise	SaveAs (Apple)	SaveAs (IBM)
4.2		
4.3	Sentences 4.3	4-3.sen
4.4	Sentences 4.4	4-4.sen
4.5	World 4.5	4-5.wld
4.6		
4.7	World 4.7	4-7.wld
4.8	Sentences 4.8	4-8.sen
4.19	World 4.19	4-19.wld

In addition, do the written exercises 4.16, 4.18, **and** 4.20 **individually and hand them in on paper.**

Remember:

- Use the names in the table above when you save the files!
- Be careful not to insert any additional white spaces before or after the file name!
- Save the files in the top directory of the diskette! Files from old labs can be moved to a subdirectory.
- All exercises should be solved within the group. The written exercises should be solved and handed in individually.

4 Deadlines

Each group/student should hand in his or her diskette and written solutions by

- Monday, March 8, 1999, at 10 am.

We in turn will try to have the graded exercises back to you by

- Thursday, March 11, 1999.

Exercises handed in after this date can at best get a grade of *Godkänd*, providing they are done correctly.

Notice that you have more time for this lab than for the previous labs. However, we recommend you to try to finish this lab before the next lab occassion (week 9), so you can start with the next lab (7-8), which is quite demanding, in time.

5 In Preparation for Hyperproof

During week 9, we will begin using the Hyperproof software after a brief introduction. The software will mainly be used to do natural deduction proofs in system $\mathcal{F}$. Those of you that have some spare time, or those of you that do not, but want to prevent a lot of stress in the following weeks, should try to prepare for the following exercises by first doing them on paper.

Chap. 2: Exercises 21-25.

Chap. 3: Exercises 39-47, 49-50, 55.

Chap. 4: Exercises 23-26, 29.

6 Grading

You can get *Väl godkänd* (for none or just one or two minor errors), *Godkänd*, or *Kompletteras*. In the latter case, you correct your errors, hand in your diskette again (with <u>all</u> the soulution files of the lab, and not just the ones that have been corrected), and eventually get a G as mark on the lab. Your marks on the labs and lecture exercises will decide your final marks: if you get VG at all but at most two occassions, you will get a VG as final mark. There will also be an opportunity to have an oral exam if you are close to a VG and want to improve your mark. To get a G, you have to get at least a G on all the labs and exercises, and complete the discrete mathematics part.

Good luck!