Institut for Matematik og Datalogi
Syddansk Universitet

September 19, 2010
JFB

Introduction to Computer Science
E10 – Lecture 4

Lecture, September 6, 8:15–10, U37

We finished chapter 1.

Lecture, September 9, 14:15–16, U28

We will finish chapter 2 of the textbook and begin on chapter 3.

Lecture, September 13, 8:15–10, U37

We will continue on chapter 3 in the textbook.

Discussion section: September 15, 12:15–14, U28

Discuss the following problems from the textbook in groups of three or four.

Pages 74–75: Problems 1c, 2c, 3b, 4c, 6.

Page 80: Problems 1b, 1c, 2b, 2d (for these problems use the floating-point format discussed in class, which is the same as in the textbook except that it uses an implicit bit in the mantissa).

Page 90: Problems 1, 2, 5, 6.

Page 94: Problem 39 (again use the format discussed in class).

Page 95: Problems 57a, 60.

Pages 96–97: Problems 1, 5, 6.

Assignment due 12:15, September 22

Late assignments will not be accepted. Working together is not allowed. (You may write this either in English or Danish, but write clearly if you do it by hand.) Submit a PDF file through the Blackboard system.

1. Convert 10110101 from two's complement to its equivalent base ten form.

2. Decode 10101101 from the floating-point representation described in class (and on the first weekly note).

3. Encode -3/16 into the floating-point representation described in class (and on the first weekly note).

4. Write a program in the machine language from Appendix C which will read values stored in two memory cells `A1` and `C1`, and then create a new value which is the same the value in `A1`, except for the third and fourth bits (not the two most significant, but the next two) of the value which should to be identical to the two low order bits of `C1`. For example, if 01010101 is in `A1` and 11001100 is in `C1`, then the result should be 01000101. Write the result in memory cell `A2`.