Institut for Matematik og Datalogi
Syddansk Universitet

April 30, 2002
JFB and KM

Discrete Mathematics with Applications
F02 – Lecture 13

Lecture, April 29

We closed the section on probability theory.

Joan Boyar then started to lecture on basic graph theory. We covered sections 7.1 and parts of section 7.2 in the textbook, plus definitions 1 and 2 from section 7.4. We worked with a modification of definition 1 on page 467: A path is *simple* if no vertex is included in its vertex sequence more than once, and a circuit (or cycle) is *simple* if no vertex is included in its vertex sequence more than once, except the first, which only appears as the first and last vertex. This definition is more standard than the one in the textbook. The same modification was applied to definition 2 on page 468.

Lecture, May 6

We will finish section 7.2 and cover sections 7.3, 7.4 (though we will skip the subsections on "paths and isomorphisms" and "counting paths between vertices") and most of 7.5.

Lecture, May 13

I would like to schedule this lecture at another time since I have a Studienævn meeting at that time. We will finish section 7.5 and cover section 7.7 and possibly 7.8.

Problems to be discussed on May 14

Problems from Section 7.2: 6, 26a.

Problems from Section 7.3: 25, 28, 46, 50, 56, 57a, 57b, 68. For problem 50, look at the definition preceding it.

Problems from Section 7.4: 12 (use induction), 20, 30.

Problems from Section 7.5: If we get this far as covering Eulerian circuits, do problems 16, 20, 22, and 38a.

Fourth required assignment

Rules are the same as for the previous assignments. Solutions must be turned in by Tuesday, May 21 at 10:15h. Solutions handed in later will not be accepted.

- Let Y be the number of heads obtained if a fair coin is tossed three times. Find the mean and variance of Y^2;
- Section 4.5, problem 46;
- Section 4.5, problem 48 a) (compare problem 47);
- Section 7.4, problem 14.