MATH 1300-D WEEK 1

SECTIONS 4.1-2; PAGES 142-165

ABSTRACT. Facebook provides an example of a social network. Here the word network—as opposed to, say, group—is used to invoke an image of dots (users) connected by lines (friendship). In mathematics the idea of a network is used to model a variety of systems and problems that deal with relations: travel, spread of a disease, scheduling of tasks...

Section 4.1

Reading. Make sure that you understand what is behind the following words:

- (1) Edges, vertices, and degree of a vertex.
- (2) Connected graph.
- (3) Euler's theorem, Euler path, and Euler circuit.
- (4) Fleury's algorithm.
- (5) Eulerizing a graph.

Self-assessment. To verify that you have understood the material, solve the following problems at the end of the section: 1–4, 17, and 35.

Now take Quiz-01; you need to score 75% on this quiz before you can start working Homework-01, which is due on Thursday 27 August.

Section 4.2

Reading. Make sure that you understand what is behind the following words:

- (1) Hamilton path, Hamilton circuit.
- (2) Complete graph.
- (3) Weighted graph.
- (4) Algorithms for solving the Traveling Salesperson Problem: Brute Force, Nearest Neighbor, and Best Edge

Self-assessment. To verify that you have understood the material, solve the following problems at the end of the section: 1–2, 8, 16, and 25.

Now take Quiz-02; you need to score 75% on this quiz before you can start working Homework-02, which is due on Monday 31 August.

Date: August 19, 2015.

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