# Discrete Mathematics

Homework 6

Due 2:20 pm, June 14, 2011

The following are exercises which you can practice at the Lab session or at home. The textbook gives out answers or hints. DO NOT hand in your solutions.

- Exercises 4.5.3, 4.5.11, and 4.5.13.
- Exercises 4.6.3, 4.6.11, and 4.6.20.
- Exercises 5.1.3, 5.1.6, and 5.1.14.
- Exercises 5.2.1, 5.2.5, 5.2.7, 5.2.13, and 5.2.17.
- Exercises 5.3.4 and 5.3.21.
- Exercises 5.4.1, 5.4.6, and 5.4.12.

The following are homeworks. You MUST hand in your solutions by the due date.

- Exercises 4.5.6, 4.5.17 (Python), and 4.5.21 (Python).
- Exercises 4.6.4, and 4.6.18.
- Exercises 5.1.7, 5.1.17 (Python).
- Exercises 5.2.6, 5.2.12, and 5.2.14.
- Exercises 5.3.15 and 5.3.17.
- Exercises 5.4.3 and 5.4.16.

For the exercises followed by "(Python)", you will write the algorithms in Python, not in pseudocode. Please note the following:

1. Name your Python functions as `multi` (for 4.5.17), `fourletters` (for 4.5.21), and `H` (for 5.1.17). In function `fourletters`, you may want to use the *set* data structure in Python.
2. Put all your python functions in a file named after your student ID (for example `B99705001.py`) and e-mail the file to the TA.
3. (**important)** Copy the python code to the paper you will be handing in to the TA (*i.e.*, the paper with all the solutions to the exercises), explain the Python implementations of your algorithms, and continue with the other part of the exercise (which may ask more questions, such as complexity *etc.*).

**PLEASE NOTE, NO EXCEPTION**

- Homework is due **before the class begins** on June 14, 2011. Late homework will not be accepted.
- Do the homework by yourself. Discussion among peers is encouraged but **copying from others is a shame**.