

# Data Structures and Programming

Spring 2017, Programming # 1

Due: May 10, 2017

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## NOTE:

You need to document each of the subroutines in detail. In addition, your report must contain the following:

- (1) program files (source, object ...). Please name your executable file as "hw1.out".
- (2) output: in the following format:

Optimal	(50, $n_1$ )(100, $n_2$ )(150, $n_3$ )...(1000, $n_{20}$ )
Move-to-front	(50, $m_1$ )(100, $m_2$ )(150, $m_3$ )...(1000, $m_{20}$ )
Transpose	(50, $t_1$ )(100, $t_2$ )(150, $t_3$ )...(1000, $t_{20}$ )
Bit-1	(50, $b_1$ )(100, $b_2$ )(150, $b_3$ )...(1000, $b_{20}$ )
Bit-2	(50, $c_1$ )(100, $c_2$ )(150, $c_3$ )...(1000, $c_{20}$ )

Note that those  $n_i, m_i, t_i, b_i, c_i, 1 \leq i \leq 20$ , are cumulated # of comparisons as explained in the assignment.

Your program should read from file "request.txt". We will execute your program in the following way: ./hw1.out request.txt

- (3) a "readme" file describing the language (C, C++, JAVA, ...), the environment (Windows, Linux, FreeBSD, Mac, ...), as well as the type of compiler needed to execute your program. (The TA will execute your codes; so be sure that your program is well-documented and executable.) Be sure to include your name, student ID No, and phone number (home and/or cell phone) in the "readme" file in case we need to reach you.
- Place all of the above in a zip file with your student ID and the version number as the file name. (For instance, if your ID is B89900000, and the file to be uploaded is version 1, your file name should be "B89900000.1.zip".)
  - Upload the zip file using "sftp" to 140.112.42.22:3922 with
    - username: ds17
    - password: datastructure

Find the /hw1/ directory and place your file in the directory. Note that those files already uploaded cannot be removed or altered. If you plan to upload a new version again, please increase the version number in your file name.

The "sftp" is readily available using "Filezilla" (supported by MS windows, linux, and osx), or simply use the "scp" command in unix.

**NOTE: Should you have questions about the above, please send your inquiries to your TA at "r05921040@ntu.edu.tw"**

The work must be the result of your individual effort. **No collaboration!!!**