

Programming Assignment # 3

Code Bumping!

Session 2

1. Objectives

Write assembly code of the Quick Sort function. The resulting code must be efficient and made with as few instructions as possible. Your code must be compiled successfully to an object file (*.o) and must work correctly when they are called from C source files.

2. Details

- A. You are given a skeleton assembly file for the quick sort function and the C file of some functions that generate a random number list, call the assembly procedure to sort the list, and finally check the correctness of the sorted list. These files can be compiled into the executable file by invoking 'make' command in the directory.
- B. These files are for IA32 Linux systems. If you have installed a x86-64 Linux distribution, install `gcc-multilib` support to your system. It will enable your system to compile IA32 assembly codes.
- C. You are supposed to complete the skeleton assembly code so that they work correctly according to the standard Quick Sort algorithm. Code with fewer instructions will earn better score.
- C. Any reverse engineering (from C code) is strictly prohibited. Think and write only in assembly.
- D. The skeleton assembly files can be downloaded at <http://csl.skku.edu/uploads/CSE2003S12/cse2003s12pa3.tgz>
- E. The quick sort function must be implemented as a recursive function.
- F. If your code works correctly, the main function will print out a success message, "Your quick sort works correctly!" Otherwise it will print out "Something's wrong in your code!"
- G. Do not modify any part of the C file.
- H. Do not add any more functions.

3. Logistics

- A. The completed source files should be tar-and-gzipped into a file. The name of the zipped file should be "studentid.tgz" (e.g. 2011310123.tgz)

- C. Prepare a separate document in PDF format, which explains the design and implementation of your code. The document file name should be "studentid.pdf" (e.g. 2011310123.pdf)
- D. Send a mail to [homework.skku@gmail.com] with attaching the two files, a zipped source code file and documentation. The subject of the mail should be *[PA#3] studentID*.
- E. Only the assignments submitted before the deadline will receive the full credit. 25% of the credit will be deducted for every single day delay.