SSE2030: Introduction to Computer Systems

Lab Session: Programming Assignment #1

Luis Arturo Cavazos Quero

Sep 2004
Me

- Luis Arturo Cavazos Quero -> Luis
- filoteo@hotmail.com - OK
  - Please put some subject like: NOT SPAM!, HELP WITH PA01!
  - Make sure to include your name, id number, and email (ph?)
- PH: 010-7470-8898 - OK
- Kakao - Ok
- Facebook - OK
You

- 1\textsuperscript{st}. - English
- 2\textsuperscript{nd}. - Korean
- 3\textsuperscript{rd}. - Your friends English

My recommendations to you.

- Bring USB
- If you aren’t comfortable using provided PC bring your laptop
- Practice using Linux outside of this class
- Try compiling and execution locally then upload
Installing Linux (VM)

- http://csl.skku.edu/SSE2030F14/Resources
Using Linux?

- What to do when I don’t know what to do?
  Do what you do in your life: Ask, see, read, etc.
  What others do?
  Hi Internet.

- [https://help.ubuntu.com/community/UsingTheTerminal](https://help.ubuntu.com/community/UsingTheTerminal)
- [http://community.linuxmint.com/tutorial/view/244](http://community.linuxmint.com/tutorial/view/244)
What else I need?

- Compiler GCC?
  YES but is already included!!! 😊

- How to compile?
  `gcc -Wall name.c -o name`

- How to run?
  `./name`
What is that?

Utility that automatically builds executable programs and libraries from source code using files called “makefiles” that specifies the building process.

YES but is already included!!! 😊

- If not just download and install...
- `sudo apt-get install build-essential`
Make: How to use?

- On the working folder just: make
- FYI Basic make file

CC=gcc
CFLAGS=-I

hi: hi.o
   $(CC) -o hi hi.o -I.

.PHONY: clean

clean:
   rm hi.o hi
PA01: Programming Assignment #1

http://csl.skku.edu/SSE2030F14/Assignments

What needs to be done? Your work 😊

1. Read input file
2. Sort input file
3. Write sorted file
4. Verify
Quick Sorting

- [http://www.youtube.com/watch?v=3OLTJlwyIqQ](http://www.youtube.com/watch?v=3OLTJlwyIqQ)
- [http://ko.wikipedia.org/wiki/%ED%80%B5_%EC%A0%95%EB%A0%AC](http://ko.wikipedia.org/wiki/%ED%80%B5_%EC%A0%95%EB%A0%AC)  <- Korean version actually better!
TIPS

▶ Each record is 100 bytes long but the key is only 10 bytes
 ▶ You should only compare the key value but move the whole record!

▶ Many ways to get there...
  ▶ N00b: Why not trying an array, and once it works modify to mem buffers
  ▶ Std: Sort a small set of the input file, faster and more visibility
  ▶ Ace: Sort the input file from the beginning

▶ Start as soon as possible and don’t wait until the last minute