Course Rules & Workstation Tutorial

EE4033 Algorithms, Fall 2019

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Outline

- General mindset & common sense
  - Homework assignment
  - Programming assignment
- Workstation tutorial
  - EDA Union workstation
  - Bash commands
  - Compiler & Makefile
  - Vim
- Online resources

General Mindset & Common Sense

- Check email & NTU COOL at least weekly
  - You don't want to miss any homework, do you?
- When contact TAs via email:
  - Add [Alg19] in mail title
  - Tell me who you are ☺
- Ask TA if anything is uncertain!
  - But please don't message us…
- Avoid plagiarism at all cost!
  - Why waste our valuable time?
- The following rules are for insurance purpose
  - We believe all of you are great ☺
  - For rules not specified, Professors and TAs have the final say!

Homework Assignment

- Hand-in your **Left-top-side STAPLED** homework **BEFORE** lecture starts
- Discussions are highly encouraged, but please finish it separately
  - No borrowing, no lending
- Specify **ALL** your coworkers & resources after each problem
  - Specify NONE if you work on your own!
  - Ex:

Prob 1 … …	Coworker: B00901020 呂祐昇 B03505028 徐晨皓	Resource: NONE
Prob 2 … … …	Coworker: NONE	Resource: <website>

Homework Assignment

- An evaluation standard (ES) will be released after sample solution (SS) is released
- Late submission penalty: 20% of full score per day
  - No submission accepted after sample solution is released
- Hint and Q/A section will be held on recitation one week before deadline

Programming Assignment

- Check your format/execution command/naming rule/file location before submission
  - Penalty for each case if occurred
  - Revision accepted within two weeks after score announced
- Check your compiler version with respect to workstation setting
- Late submission penalty: 20% of full score per day
- Hint and Q/A section will be hold on recitation one week before deadline
- From previous experience, you won't pass if you don't submit your PA…

Recitation

- Free to join
  - Won’t roll call
- Hint and Q/A one week before each deadline
- Review before each exam
- Difficult part explanation

TA Contacts

TA	Class	Job	Time	Location	Email
呂祐昇	大助教	統籌	Thur. 17:00~18:00	BL406	f04943094@ntu.edu.tw
徐晨皓	張教授班	HW2,5 PA2	Mon. 12:10 ~ 13:10		r07943107@ntu.edu.tw
蔡宇傑					r07943111@ntu.edu.tw
謝承運	李教授班	HW2,3 PA1	Mon. 12:10 ~ 13:10 Wed. 13:20 ~ 14:10	BL427	d08943012@ntu.edu.tw
吳辰鋐					r07943150@ntu.edu.tw
林尚謙	江教授班	HW1,4 PA3		BL407	r07943106@ntu.edu.tw
林奕廷					r07943102@ntu.edu.tw

Calendar

Week	Date	Topic: Textbook Chapters	PA	HW	Recitation	Person in Charge
1	9/10,11	Foundations: CH1, CH2		1 out	Tutorial	祐昇
2	9/17,18	Foundations: CH3, CH4	1 out		PA#1	辰鋐
3	9/24,25	Sorting: Ch6 , CH7			HW#1	尚謙
4	10/1,2	Sorting: Ch8, CH9		1 in		承運
5	10/8,9	Trees: CH 12 PA #1 due SUN 1PM	1 in	2out		祐昇
6	10/15,16	Trees: CH 13				祐昇
7	10/22,23	Advanced Design: CH 15	2 out		HW#2	辰鋐、宇傑
8	10/29,30	Advanced Design: CH 16 (HW#2 Friday 6pm due, no late HW) (SOL#2 SAT announce)		2 in	EXAM	祐昇
9	11/5,6	Midterm Exam 10:00-12:30				
10	11/12,13	Disjoint Set :CH21		3 out	PA#2	晨皓
11	11/19,20	Graphs BFS/DFS: CH22	2 in		(APP)	祐昇
12	11/26,27	Graphs MST:CH23	3 out		HW#3	承運
13	12/3,4	Graphs SP: CH24		3in 4out	PA#3	祐昇
14	12/10,11	Graphs SP: CH 25			HW#4	奕廷
15	12/17,18	Graphs Flow: CH26		4in 5out	(APP)	尚謙
16	12/24,25	NP-complete: CH 34 Amortized Analysis: CH17	3 in		HW#5	晨皓
17	12/31	Optional topics HW#5 Friday 6pm due SOL#5 SAT Announce		5in	EXAM	祐昇
18	1/7,8	Final exam 10:00-12:30 !				

EDA Union Workstation

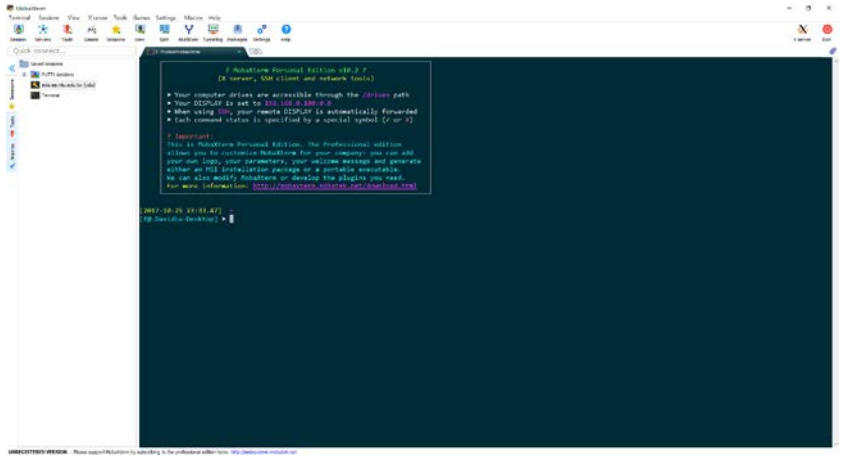
- Available server list:

Server	OS	CPU	Memory	gcc Version
EDAU1	CentOS 6.8	Intel Xeon E5620 @ 2.4 GHz	48 GB	gcc 5.4.0
EDAU5	CentOS 6.8	Intel Xeon E5-2620 @ 2.1 GHz	16 GB	gcc 5.4.0
EDAU8	CentOS 6.8	Intel Xeon E5-2620 @ 2.0 GHz	8 GB	gcc 5.4.0
EDAU12	Ubuntu 8.04	Intel Xeon E5420 @ 2.5 GHz	24 GB	gcc 4.2.4
EDAU15	CentOS 6.8	Intel Xeon X5680 @ 3.33 GHz	40 GB	gcc 5.4.0

- Student account
  - Alg19+<number>
  - Ex: Alg19123
  - Auditor account: Alg19310, password: saiWulk8
- Login command
  - ssh <account>@edaunion.ee.ntu.edu.tw –p 40050+<ServerID>
  - Ex: ssh Alg19123@edaunion.ee.ntu.edu.tw –p 40051

Terminal Consoles

- Windows
  - MobaXterm: https://mobaxterm.mobatek.net/
  - Putty: http://www.putty.org/
  - Pietty: https://sites.google.com/view/pietty-project
- FTP
  - FileZilla: https://filezilla-project.org/
- Linux/MacOS
  - Default terminal
- Code editor
  - Notepad++: https://notepad-plus-plus.org/zh/
  - Visual Studio Code: https://code.visualstudio.com/
  - Vim: http://linux.vbird.org/linux_basic/0310vi.php



Terminal Commands

- Commands you **MUST** know
  - yppasswd
  - ls
  - cd
  - mkdir
  - rm
  - mv
  - tar
  - time
  - timeout
  - top
  - …

Compiler & Makefile

- Compiler
  - Compile your program using “commands” instead of “buttons”
  - g++, clang, …
  - Command: g++ [-O/O2/O3] <file name> -o <program name>
  - Other flags: -O/O2/O3, -g, -std, …
  - Ex: g++ -O2 main.cpp –std=c++11 –o PA1

- Makefile
  - Fast compile script for large and complex software
  - Command: make, make clean, make debug (how?)

Vim

- A very powerful & elegant text editor
- Commands
  - Insertion mode, view mode, visual mode switching
    - Esc, i, v
  - Save & Quit
    - :w, :q
  - Copy & paste
    - yy, p
  - Auto indent
    - ???
  - Environment setting
    - .vimrc

Online Resources

- Command line
  - Basic
    - http://linux.vbird.org/linux_basic/
  - Compress file
    - http://note.drx.tw/2008/04/command.html
  - Compiler & Makefile
    - http://beyond-firmware.blogspot.tw/2014/12/c-compiler-g.html
    - http://www.laird.tw/2015/04/linux-c-ubuntu-c.html
    - https://dywang.csie.cyut.edu.tw/dywang/linuxProgram/node58.html
    - http://www.csie.nuk.edu.tw/~kcf/course/97_Spring/Embedded%20System/8-Makefile.pdf
  - Vim:
    - http://linux.vbird.org/linux_basic/0310vi.php
- Reference book
  - C++ Primer, C++ Primer Plus, …