SSE2032: System Software Experiment 1

spring 2019

Hwansoo Han (hhan@skku.edu)
Advanced Research on Compilers and Systems, ARCS LAB
Sungkyunkwan University
http://arcs.skku.edu/

Introduction

- Schedule
  - 18:00 ~ 21:45 (Thursday)
  - Lecture room : #400202, Semiconductor Bldg.

- Course homepage
  - http://arcs.skku.edu/Courses/SysSWPractice1
  - Lecture slides, Assignments, etc.
  - Announcements, Scores of assignments are on I-Campus.

About professor

- Hwansoo Han
  - Professor @ SW Dept.
  - ARCS Lab.
  - Research area
    - System software for non-volatile memories, Parallel and distributed computing, Memory system optimization for locality, Program analysis for software security
  - Email: hhan@skku.edu
  - URL: http://arcs.skku.edu
  - Tel: 031-299-4594
  - Office: Corporate Collaboration Center #85568

TAs

- Hwiwon Kim (김휘원)
  - Email: hwkim@arcs.skku.edu
- Dojin Park (박도진)
  - Email: djpark@arcs.skku.edu
- Office: Corporate Collaboration Center, #85565

Grading Factors

- Attendance : 10%
- Weekly Exercises : 10%
- Assignments
  - Assignment 1, 2 : 20%, 20%
  - Assignment 3 (Term Project) : 40%

- F Grade if you
  - Absents more than ¼ (of total classes)
  - Does not submit Assignment 3 (Term Project)

Schedule

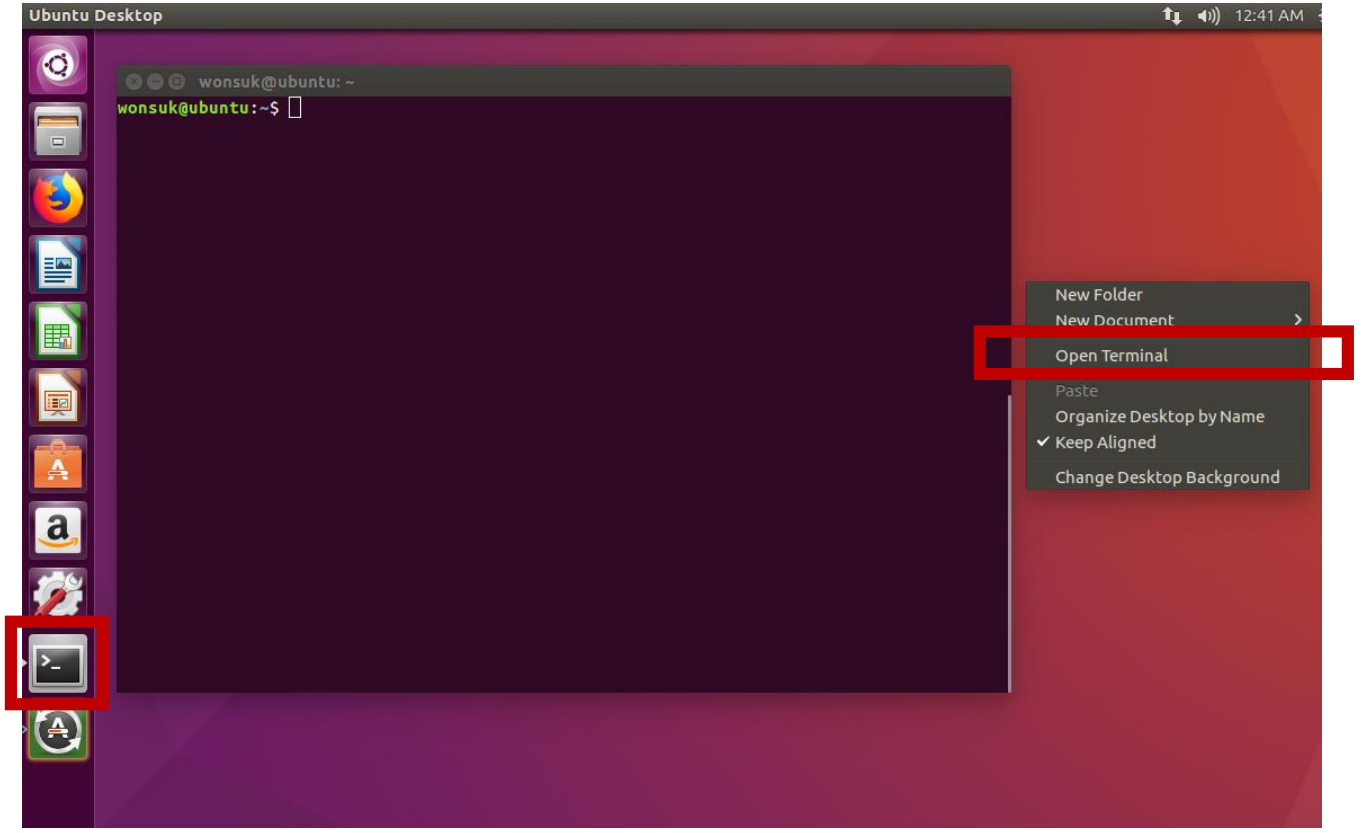
Spring 2019 (Thursday)					
This schedule can be changed					
MARCH	7 Introduction	14 Loops	21 Recursion	28 Pointer	
APRIL	4 Array	11 Structure	18 I/O	25 **MID TERM** **(NO CLASS)**	
MAY	2 List	9 Tree	16 List & Hash	23 Storage Classes	30 Makefile
JUNE	6 **Memorial Day**	13 Stack & Queue	20 **FINAL TERM** **(NO CLASS)**		

Today's work

- Constructing development environment for C-programming
- Be familiar with terminal using several commands
- Make & run simple "helloworld.c" file

Terminal

- Click icon or ctrl+alt+t or right click for starting terminal



Basic commands for Linux

- **man : display the manual page (Important!!)**

  $ man mkdir (manual page for mkdir command)

  $ man man (manual page for manual)

- cd : change directory

  $ cd .. (change to upper directory)

  $ cd / (go to root directory)

  $ cd /home/(username)

Basic commands for Linux

- ls : lists all files

  $ ls

  $ ls –al

- ps : list processes

  $ ps

  $ ps –ah

Basic commands for Linux

- mkdir : make directories
  $mkdir test (make a directory named “test”)

- mv : move or rename file
  $mv test.txt aaa.txt (rename test.txt into aaa.txt)
  $mv test.txt ../ (move test.txt to upper directory)

- cp : copy files

- rm : remove files

-r option should be attached for directory operation.

hello_world.c

```
#include <stdio.h>

int main()
{
        printf("Hello, world!");
        return 0;
}
```

How to compile & run?

- gcc hello_world.c
- ./a.out

Reference : C coding standard

- Name : Make names fit!
  - Variable names
    - Use lower case letters (a~z)
    - Use '_' as the word separator
- Function name
  - Should explain function's action
    - ex) *check_for_errors()* rather than *error()*
- Parenthesis () : A space between a 'name' and '()'
  - Put a space after 'keywords'
    - ex) if (), elseif (), while (), sizeof ()
  - No space after 'functions'
    - ex) strcpy(), printf()

```c
#include <stdio.h>

int main()
{
    int i, j, num, val;

    scanf("%d", &num);

    for (i = 1; i <= num; i++)
        printf("  ");
    printf("1\n");

    for (i = 1; i < num; i++) {
        for (j = 1; j <= num - i; j++)
            printf("  ");
        val = 1;
        printf("1  ");
        for (j = 1; j <= i; j++) {
            val *= i - j + 1;
            val /= j;
            printf("%d  ", val);
        }
        printf("\n");
    }
}
```