ECE30017, Fall 2021

Problem Solving through Computational Thinking

31 August 2021

Classes and Homework

Tue/Fri, 2:30 – 3:45 PM

OH 305 & Zoom

Textbook: none

20 Programming Assignments

Communication: **Slack & Hisnet**

Class

- 19 students are enrolled at 31 August 2021
  - all students have Computer Science as their major
  - 6 students of Year 3 and 13 students of Year 4+

Teaching Assistants

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Activities

- Review of algorithm analysis
  - weeks 1 and 2
  - guest lecture by Prof. Joshep Sung Yong Shin
- Two problem solving problems per week
  - one for personal work + one for collaborative work
  - submit program source code and write-up
- Programming competition
  - ACM-ICPC - 9 October (Sat)
  - Programming competition - TBD

Problem Solving Problem

- Program code
  - Write in C/C++
  - Submit to a Domjudge server: URL is TBA
- Report
  - Write your solution as a PPT slide and upload to a Google Driver folder
  - Describe your idea and implementation as clear and as concise as possible
  - Put references on your report when you consult with a book, paper, …
  - Extra-point for suggesting non-trivial applications and great solutions for generalized/restricted problems

Personal & Collaborative Work

- Collaborative work
  - Deadline is 9 PM Friday
  - Work together on building an idea and writing a report
  - Write and submit a solution program independently

- Personal work
  - Deadline is 12 PM Tuesday
  - Work independently: you must not discuss with any others

Class Schedule

주	날	수업	출제	제출
1	화	강의	P1	
	금	강의		
2	화	강의	C1, P2	P1
	금	강의		C1
3	화	P1	P3, C2	P2
	금	C1		C2
4	화	휴강(추석)	C3	
	금	P2		P3
5	화	C2	C4, P4	
	금	P3		C4
6	화	C3		P4
	금	ICPC대회		
7	화	P4	C5, P5	
	금	C4		C5
8	-	휴강		

주	날	수업	출제	제출
9	화	C5	C6, P6	P5
	금	P5		C6
10	화	C6	C7, P7	P6
	금	P6		C7
11	화	C7	C8, P8	P7
	금	P7		C8
12	화	C8	P9	P8
	금	코딩경진		
13	화	P8	C9	P9
	금	P9		C9
14	화	C9	C10, P10	
	금	특강		C10
15	화	C10		P10
	금	P10		
16	-	휴강		

Class Presentation and Discussion

- Preparation for your presentation:
  - Focusing on fact finding
  - Practicing your presentation
  - Preparing discussion with classmates
  - Reminding the problems before class
- Appointment of a presenter
- Presentation of his/her solution
- Question and answer (discussion)
- Brief comments on the problem and your solutions by the professor (providing main idea but not a complete solution)

Grading Policy

- Attendance: 4 points / attendance (27 attendance)
- Discussion: upto 2 points / attendance (27 attendance)
  - points are given to 0 to 5 students who made contribution in discussion

- Presentation: 40 points
  - each student has 3 to 5 times of presentation in a semester

- Problem Solving: 10 pts / problem (20 problems)
  - 5 points from autograding
  - 5 points from evaluation of report

Notes

- No repeating of the course allowed
- No exams
- Surprising extra credits will be given to great ideas

Things Prohibited

- Late attendance
- Making noises in class
  - Mobile phones, toilet, late class, etc
- Cheating
  - Homework, programming assignments, attendance checks

Programming Environment

- Use **gcc/g++ 7.3.0** on Linux/UNIX
- Use Linux virtual environment on Windows
  - **Ubuntu for Windows** (Windows 10 subsystem)
    https://tutorials.ubuntu.com/tutorial/tutorial-ubuntu-on-windows
  - **Windows Terminal** (beta)
    https://github.com/microsoft/terminal

Note for Programming Assignment

- Your program only allows to use the standard libraries.
- Your program should be one C/C++ file.
- Input data is always given from the standard input
- The result should be printed out to the standard output.
  - Do not print out any debugging messages.
- Your program should return an answer within a time limit
  - Do not put any pausing instruction.

Re-try Chances

- Students who failed at auto-judge will have second chance to revise and resubmit the code
- Students regain 50% of the auto-judge points if the submitted program passes with all test cases at the retry

ACM-ICPC participation

Worldwide

- More than 40,000 students
- From 2,736 universities from 102 countries

Korea

- 630 teams from 64 universities
- SNU and KAIST ranked at the 7th and 21th places, respectively in the 2019 world final.
- Kim Chaek University of Technology ranked at the 8th place

Every student should participate!

- 3 persons / team
- Contest day: 9 Oct (Sat)