CS420 – Compiler Construction

Fall 2018

Instructor: **Dongsoo Han**
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Class Hours: 14:30 ~ 16:00 (Tue), 14:30 ~ 16:00 (Thu)

Prerequisites: Programming Languages, Data Structures

Classroom: Room 111, N1 building

Office Hours:

Assistant: Kyuho Son, Room 723, N1 building, ableman@kaist.ac.kr

Text: *"Compilers:Principles, Techniques, and Tools"*

      by Aho, Lam, Sethi, and Ullman, Addison-Wesley Publishing Company

Reference: *"Advanced Compiler Design and Implementation"*

      by Steven S. Muchnick, Morgan Kaufmann Publishers

Grading Policy: Midterm (25%), Final (35%), HW (10 %), Term Project (30 %)

Objective:

This course covers the topics in design of programming language translators, including scanning, parsing, error recovery, code generation, and code improvement. A term project building a compiler is given and its achievement is evaluated. The usage of many tools and programming skills can be learned through this course.

Course Schedule

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Week	Contents	Remarks
1	Introduction & Overview	
2	Languages and Grammars	
3	Parsing Overview	Homework #1
4	LL Parsing I	
5	LL Parsing II	
6	LR Parsing I	Homework #2
7	LR Parsing II	
8	Midterm Exam	
9	Context Sensitive Analysis	
10	Symbol Table, Run Time Environment	Term Project
11	Intermediate Code	
12	Code Generation I	
13	Code Generation II	
14	Code Optimization I	
15	Code Optimization II	
16	Final Exam	Final Term Project Report