Compilers

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Who am I??

Hyosu Kim

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Research interests

- Cyber-physical systems
- Mobile / ubiquitous computing systems
- Sensing
- Human-computer interactions

Course Overview

Title: Compilers

"What are compilers?", "How to design and implement compilers?"

Lecture Time / Location

- Wednesday (15:00 ~ 18:00) @ 207-234
  - 60 ~ 70-minute lecture + 10-minute breaktime + 60 ~ 70-minute lecture

Textbook (optional)

- Compilers Principles, Techniques, and Tools (by Alfred V. Aho et al.)
- Modern Compiler Implementation in Java (by Andrew W. Appel et al.)

Course Overview

Course objectives / direction

- Understanding the procedures of compilers
- Experiencing the development of compilers

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A compiler?? A language translator!!

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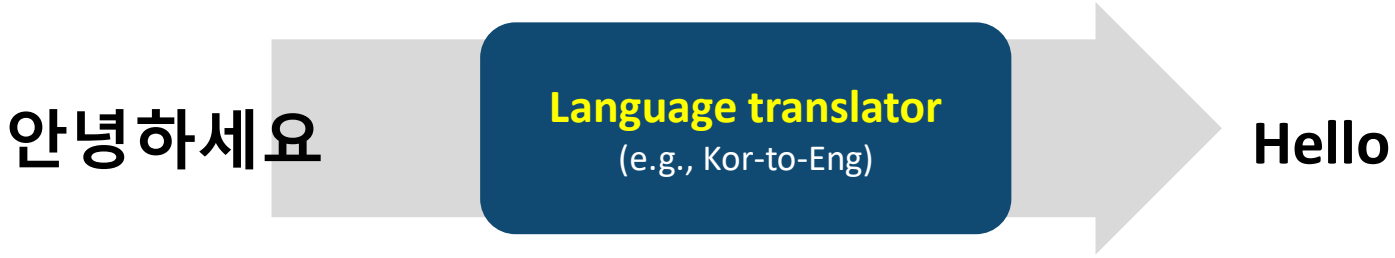

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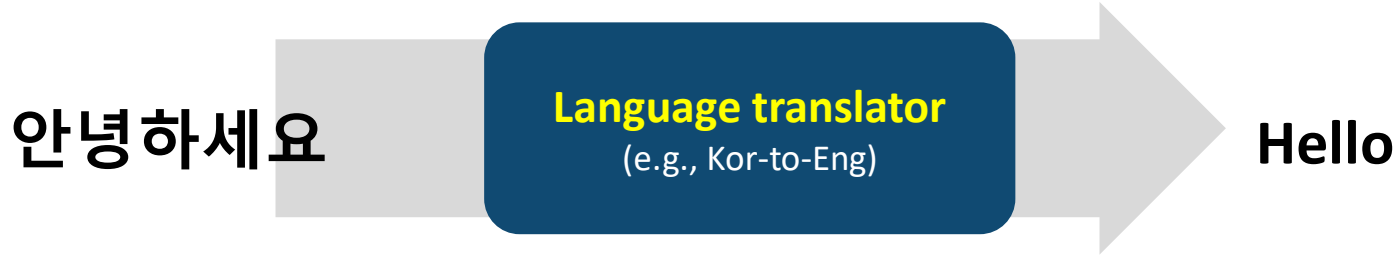

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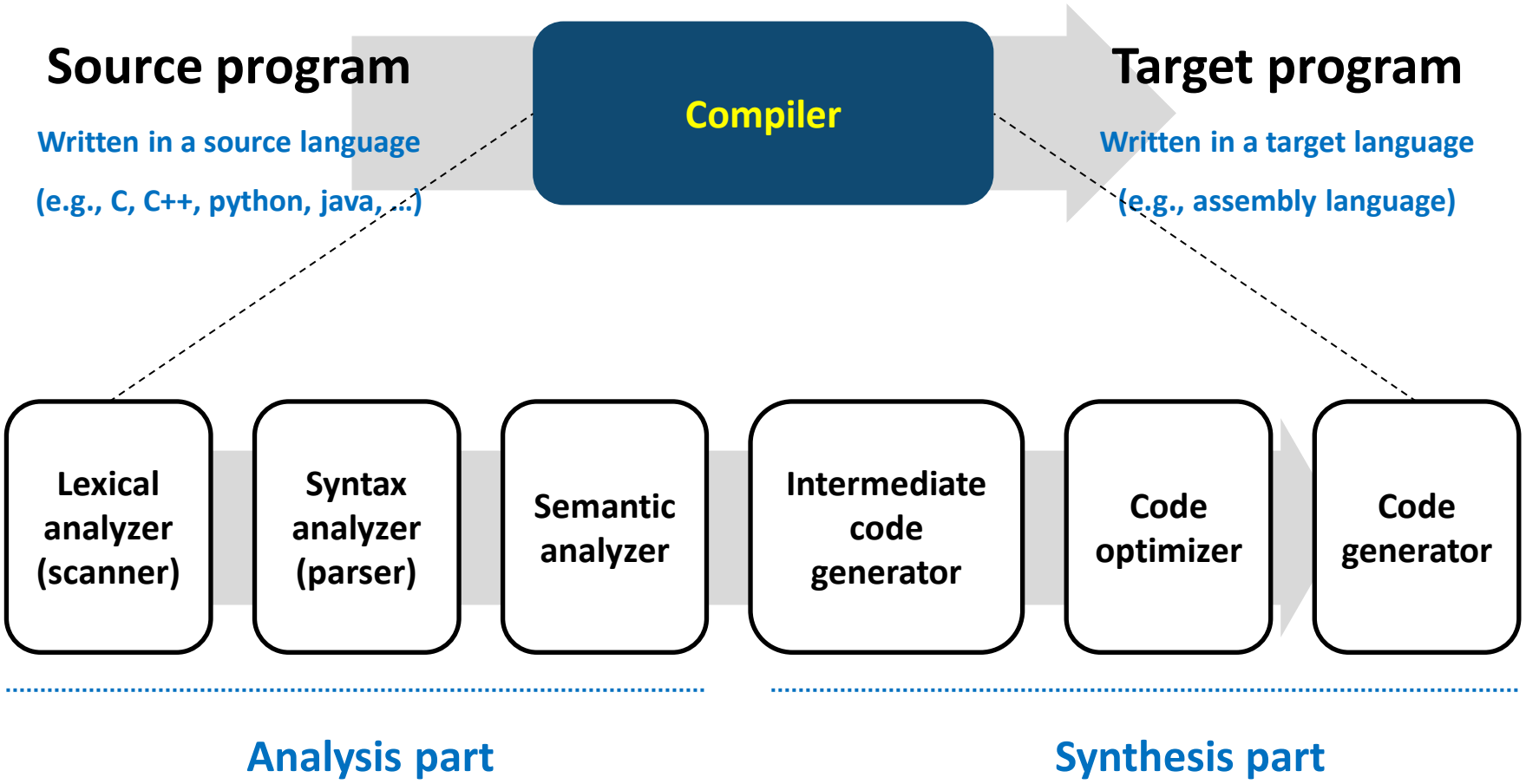

Grading

- **Attendance (10%, smart attendance system)**
  - Initially, you will earn 12 credits
  - Absence: -2 / late attendance: -1
  - Your final attendance score: min(10, your final credit)
  - If your final credit <= 2, you will get F
- **Midterm exam (40%) / final exam (40%)**
- **Term-project (10%)**
  - This is a team project (but, you can also do the project alone if you want)
  - Each team consists of at most 2 students
  - You will develop some part of compilers (the detailed information will be announced later)

Tentative schedule

Week	Contents	Term-project schedule
1st	Orientation	
2nd	Overview & lexical analysis part 1	
3rd	Lexical analysis part 2	
4th	Parser overview	
5th	Top-down (LL) parsing	
6th	Bottom-up (LR) parsing part 1	
7th	Bottom-up (LR) parsing part 2	
8th	**Midterm exam**	
9th	Bottom-up (LR) parsing part 3	
10th	Semantic analysis part 1 **(No class in 5/5)**	**Term-project** Design and implementation of a parser
11th	Semantic analysis part 2	
12th	Intermediate code generation	
13th	Code optimization part 1	
14th	Code optimization part 2	
15th	Code optimization part 3	
16th	**Final exam**	