

Lecture 27 – Course Review

COSE212: Programming Languages

Jihyeok Park



2023 Fall

Goal of This Course

Learn **Essential Concepts of Programming Languages**

Learn **Essential Concepts** of **Programming Languages**

- Why?

Learn **Essential Concepts** of **Programming Languages**

- Why?
 - To **learn new programming languages** quickly.

Learn **Essential Concepts** of **Programming Languages**

- Why?
 - To **learn new programming languages** quickly.
 - To **evaluate** and pick the best language for a given task.

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 - To design a **specialized language** for a specific task.

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 - To **learn new programming languages** quickly.
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 - To design a **specialized language** for a specific task.
- How?

Learn **Essential Concepts** of **Programming Languages**

- Why?
 - To **learn new programming languages** quickly.
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 - To design a **specialized language** for a specific task.
- How?

By Implementing **Interpreters** using **Scala**

- You will learn how to define **syntax** and **semantics** of target languages.
- You will implement **interpreters** of the target languages.
- You will use **Scala** as an implementation language.

(Part 1)
Untyped Languages

(Part 2)
Typed Languages

**Arithmetic
Expressions**

AE

(Lecture 2 & 3)

(Part 1)
Untyped Languages

(Part 2)
Typed Languages

**Arithmetic
Expressions**

AE

(Lecture 2 & 3)



VAE

(Lecture 4 & 5)

Identifiers

(Part 1)
Untyped Languages

(Part 2)
Typed Languages

**Arithmetic
Expressions**

AE

(Lecture 2 & 3)



VAE

(Lecture 4 & 5)

Identifiers



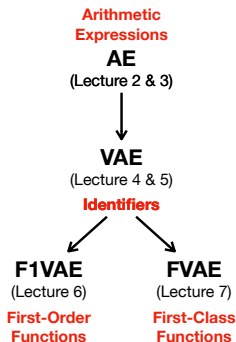
F1VAE

(Lecture 6)

**First-Order
Functions**

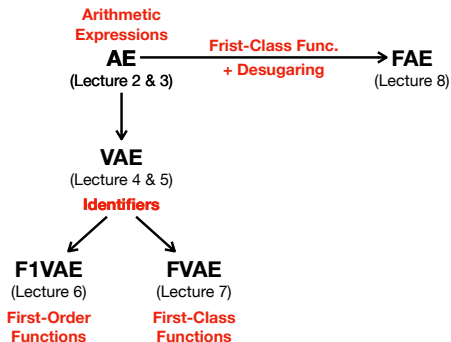
(Part 1)
Untyped Languages

(Part 2)
Typed Languages



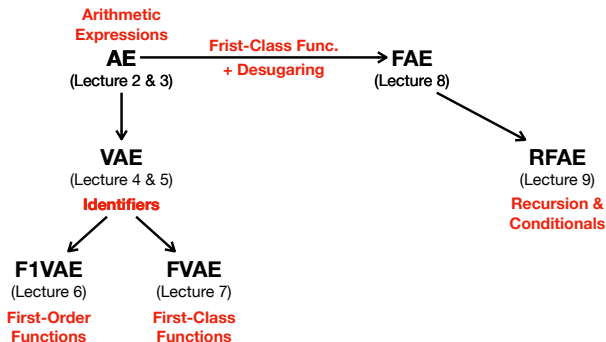
(Part 1) Untyped Languages

(Part 2) Typed Languages



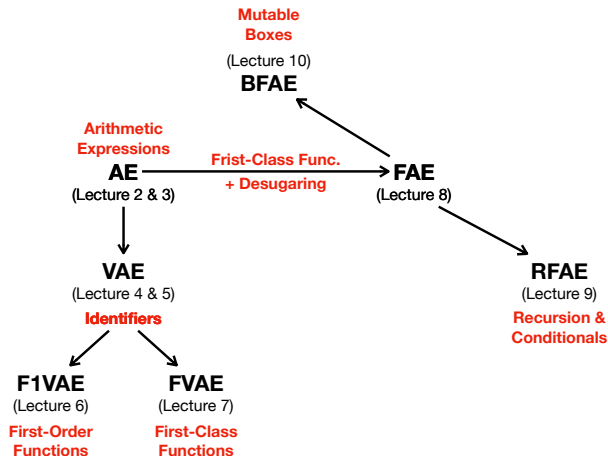
(Part 1)
Untyped Languages

(Part 2)
Typed Languages



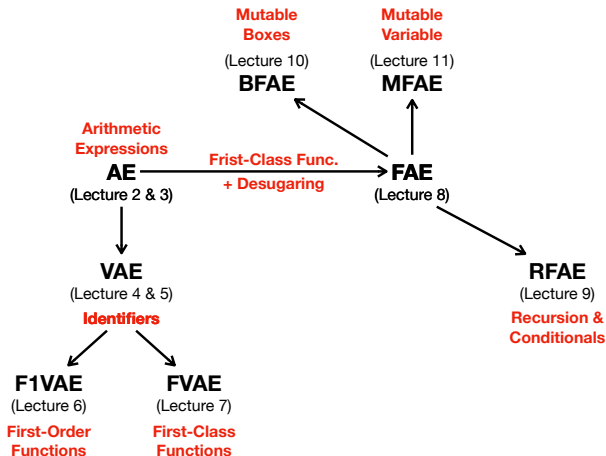
(Part 1) Untyped Languages

(Part 2) Typed Languages



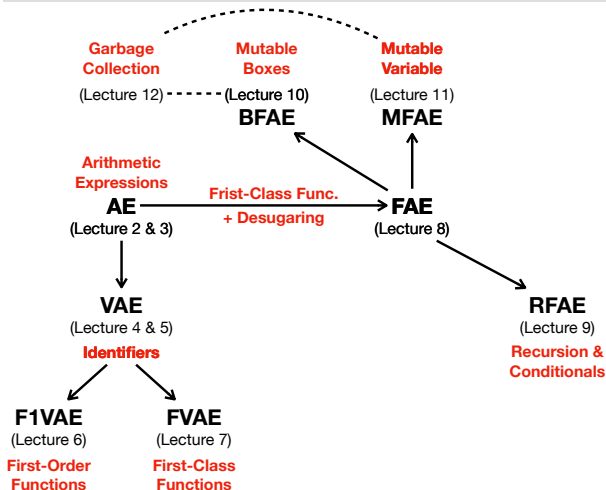
(Part 1) Untyped Languages

(Part 2) Typed Languages



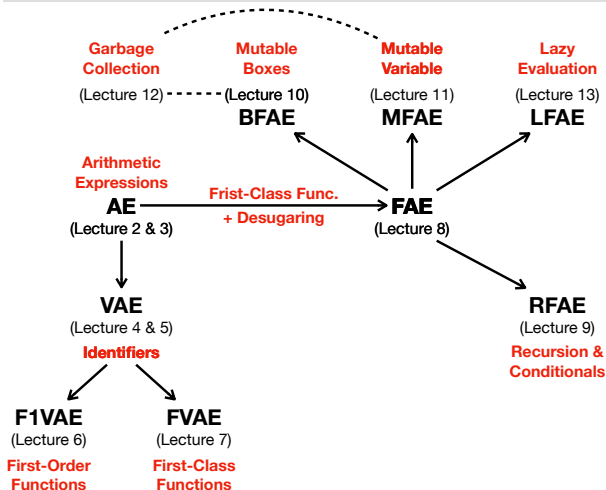
(Part 1) Untyped Languages

(Part 2) Typed Languages



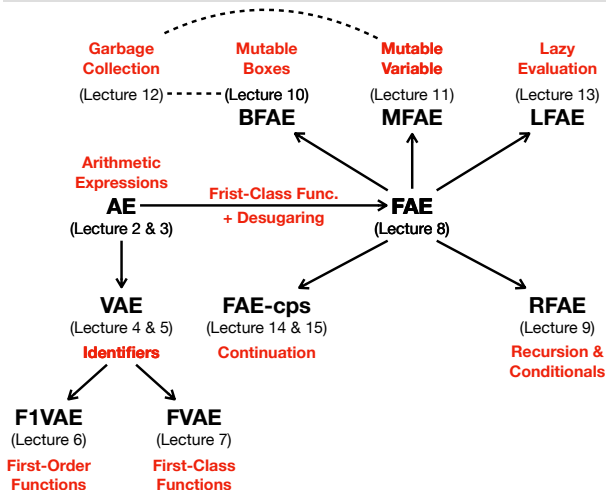
(Part 1) Untyped Languages

(Part 2) Typed Languages



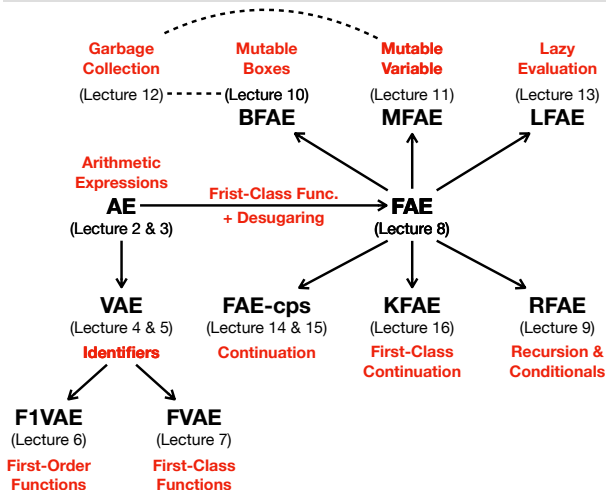
(Part 1) Untyped Languages

(Part 2) Typed Languages



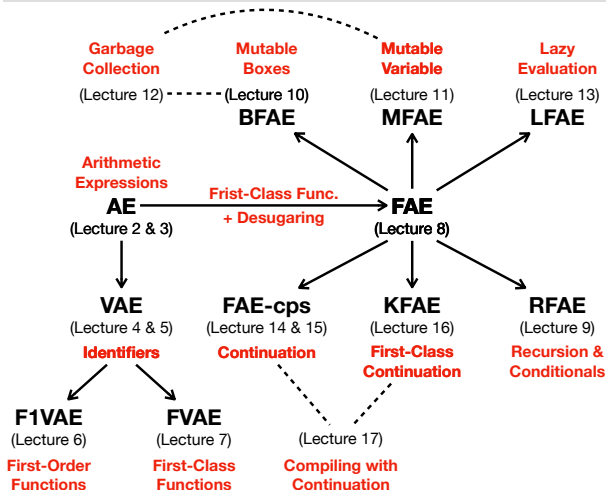
(Part 1) Untyped Languages

(Part 2) Typed Languages



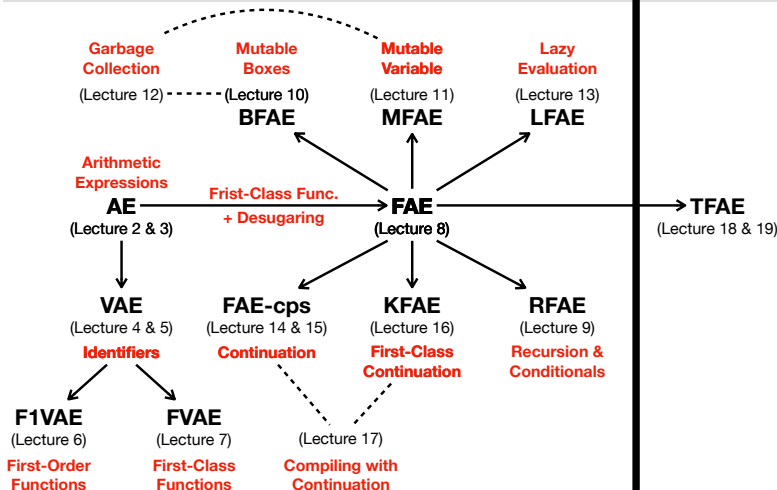
(Part 1) Untyped Languages

(Part 2) Typed Languages



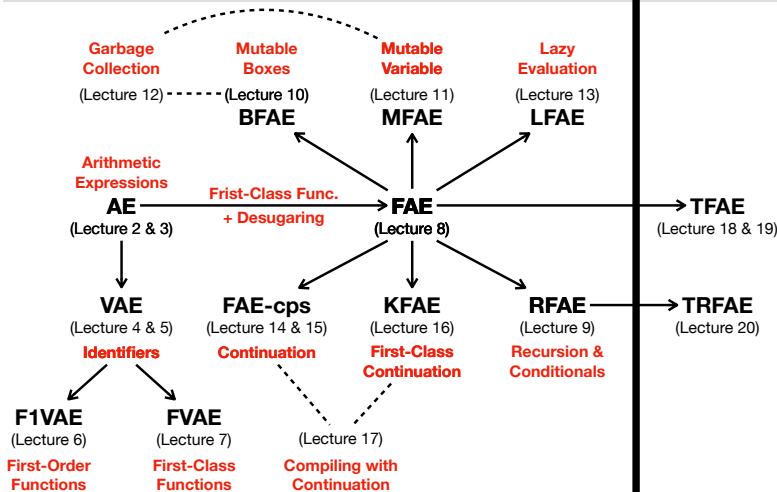
(Part 1) Untyped Languages

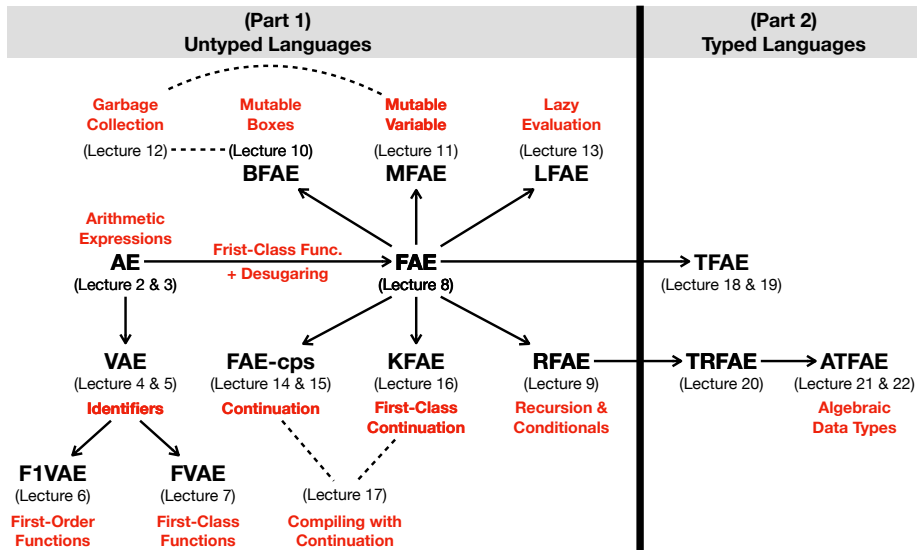
(Part 2) Typed Languages

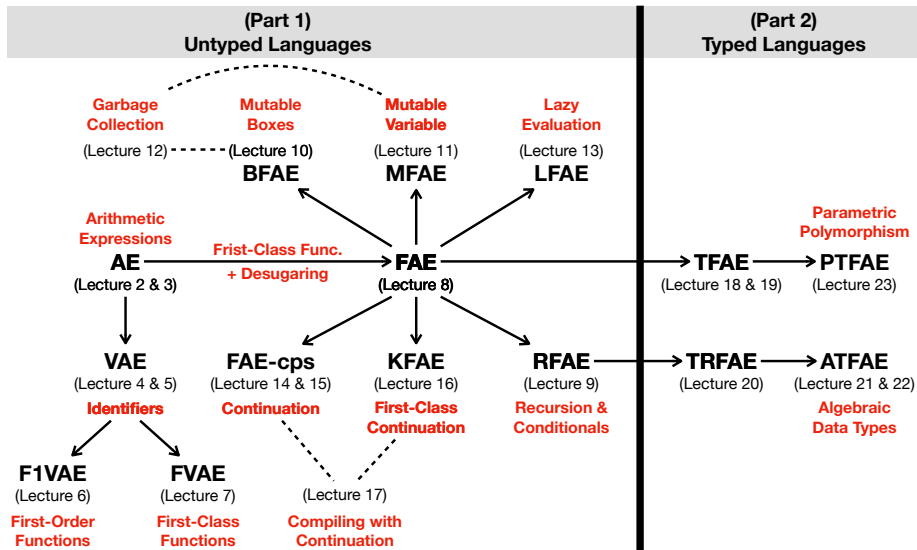


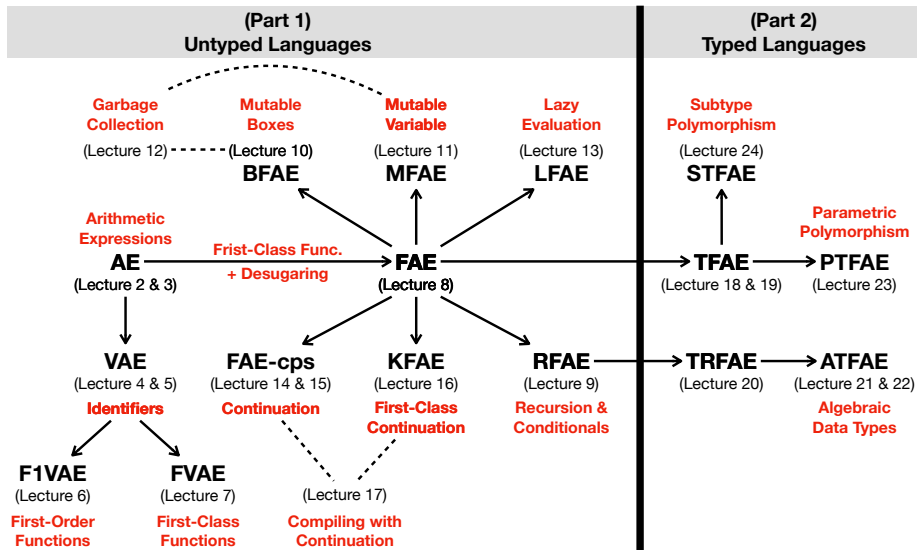
(Part 1) Untyped Languages

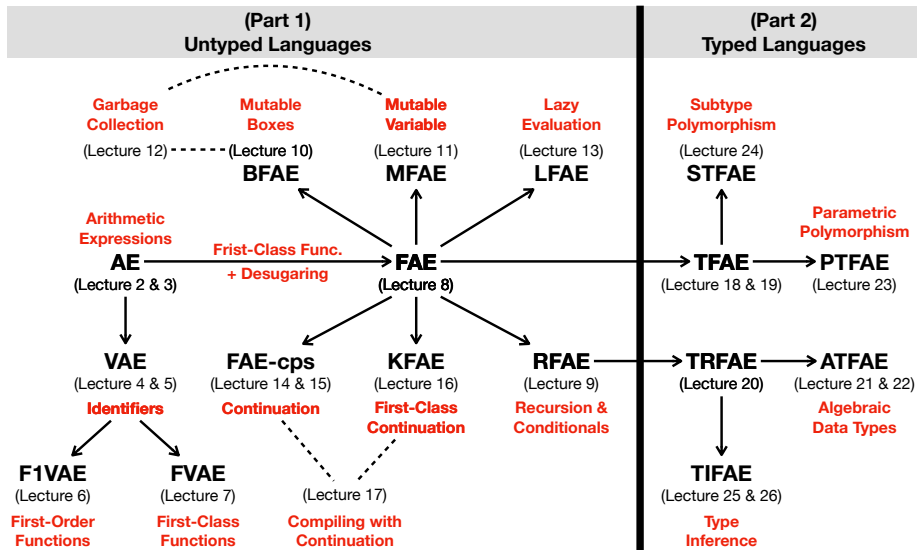
(Part 2) Typed Languages











- The final exam will be given in class.
- **Date:** 13:30-14:45 (1 hour 15 minutes), December 20 (Wed.).
- **Location:** 535, Asan Science Building (아산이학관)
- **Coverage:** Lectures 14 – 26
- **Format:** 7–9 questions with closed book and closed notes
 - Fill in the blank in a Scala code snippet.
 - Define the syntax or semantics of extended language features.
 - Write the evaluation results of given expressions.
 - Yes/No questions about concepts in programming languages.
 - etc.
- Note that there is **no class** on **December 18 (Mon.)**.

- I hope you enjoyed the class!

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