ONLY GOD

2020

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Compiler Design

Course Outline

CSE & IT Department
School of ECE
Shiraz University

Description

- A survey on compiler construction for a (simplified) (programming) language
- How to use compiler construction tools, such as generators of scanners and parsers

Goals

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- Be familiar with virtual machines, such as the JVM and Java bytecode
- Be able to define LL, LR, and LALR grammars
- Be familiar with compiler analysis and optimization techniques
- … learn how to work on a larger software project!

Prerequisites

- You should possess some "computer-science sophistication" …
  - A course in theory of languages and automata
  - A second course on programming
  - Courses in data structures and discrete mathematics
  - Knowledge of several different programming languages

Grading

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Point distribution

- Midterm exam 40 %
- Final exam 45 %
- Homeworks 10 %
- Project (design & implementation) (5+5) %
- Quizes bonus

Course Contents

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- Introduction to Compiler Design
- A Simple Translator
- Lexical Analysis
- Syntax Analysis
- Syntax-Directed Translation
- Intermediate Code Generation

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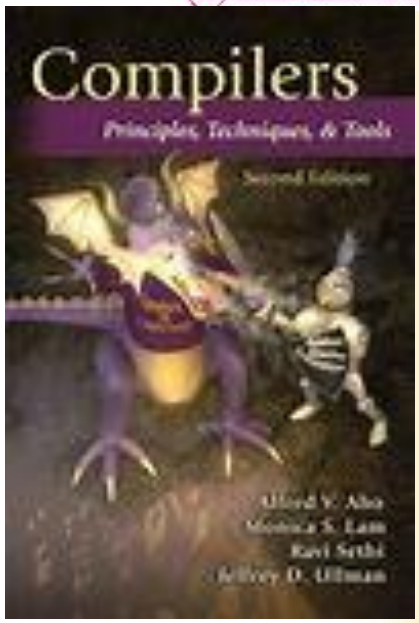
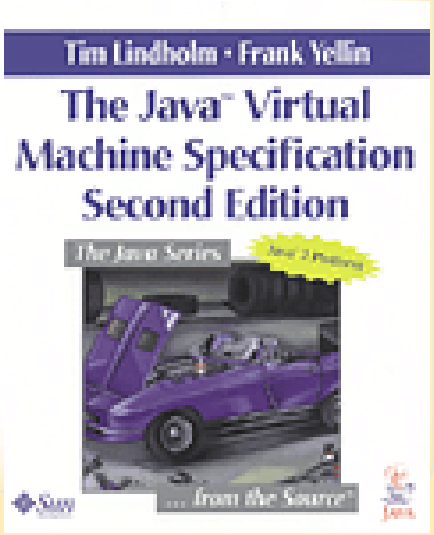
Course Material

- Textbook (Dragon book)
  - "*Compilers: Principles, Techniques, and Tools*" by Aho, Lam, Sethi, and Ullman, 2nd edition



- References
  - "*The Java Virtual Machine Specification*", 2nd edition



- Supplementary materials:
  - Lecture slides
  - Class handouts

Course Web Page

- For announcements, lecture slides and assignments:

  http://sess.shirazu.ac.ir

- For textbooks and other resources:

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Contact

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- How to contact me?
  - Office hours: 16:00-16:30, Sat. and Mon.
  - E-mail: mansoori@shirazu.ac.ir
  - By appointment

Knowledge cannot be taught; it is learned