

CSE 4101 - Compiler Design

Book 1: Compilers 2nd Ed - Principles, Techniques, & Tools - Alfred V. Aho, Monica S. Lam, Ravi Sethi, Jeffrey D. Ullman - Pearson (2007).

Book 2: Engineering Compiler 2nd Ed - Keith D. Cooper & Linda Torczon - MK (2012)

Marks Distribution for Every Question: Easy (8) + Hard (4)

Solve exercise problems for easy and hard questions.

Topic Name	Book	Chapter	Topics
Introduction	Book 1	Chapter 1	Easy: 1.1, 1.2, 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5, 1.2.6, 1.2.7, Understanding the differences: traditional interpreter, JIT compiler, JIT interpreter and AOT compiler
	Other	-	Hard: A. V8 Engine (JavaScript Interpreter) Internal [Optional] [Try to watch video in the article][Use proxy if you cannot access the article]: Understanding V8's Bytecode. V8 is Google's open source JavaScript... by Franziska Hinkelmann DailyJS B. Language Binding and How does it work: i) Language Binding [Definition with example]: Language binding ii) Wrapper library [Definition with example]: Wrapper library iii) How does Language Binding Work [Language Binding Internals]: How do language bindings work?
Lexical Analysis	Book 1	Chapter 3	Easy: 3.1, 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.3, 3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.5, 3.5, 3.5.1, 3.5.2, 3.6, 3.6.1, 3.6.2, 3.6.3, 3.6.4, 3.7, 3.7.1, 3.7.4

			Hard: 3.2, 3.2.1, 3.2.2, 3.4, 3.4.1, 3.4.2, 3.4.3, 3.4.4, 3.5.3, 3.5.4, 3.7.2
Syntax Analysis	Book 1	Chapter 4	Easy: 4.1, 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.2, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.3, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.4, 4.4.1, 4.4.2, 4.4.3, 4.4.4, 4.5 Hard: 4.2.6, 4.2.7, 4.3.5, 4.4.5, 4.5.1, 4.5.2, 4.5.3, 4.5.4
Context-Sensitive Analysis	Book 2	Chapter 4	Easy: 4.1, 4.2, 4.2.1, 4.3, 4.3.3, 4.3.4, 4.4, 4.4.1, 4.4.2 Hard: 4.2.2, 4.3.1, 4.3.2 Attribute Grammar and Syntax Directed Definition (SDD) are the same. Ad Hoc Syntax Directed Translation and Syntax Directed Translation (SDT) are the same.
Intermediate Code Generation	Book 1	Chapter 6	Easy: 6.2, 6.2.1, 6.2.2, 6.2.3
	Book 2	Chapter 5	Easy: 5.1, 5.1.1, 5.2, 5.2.1, 5.2.2, 5.3, 5.3.1, 5.3.2, 5.5, 5.5.1, 5.5.2, 5.5.3 Hard: 5.3.3, 5.3.4, 5.4, 5.4.1, 5.4.2, 5.4.3
Procedure Abstraction/Run-Time Environment	Book 1	Chapter 7	Easy: 7.1, 7.1.1, 7.2, 7.2.1, 7.2.2, 7.5 Hard: 7.2.3, 7.2.4
Code Generation	Book 1	Chapter 8	Easy: 8.1, 8.1.1, 8.1.2, 8.2, 8.2.1, 8.4, 8.4.1, 8.4.2, 8.4.3, 8.4.4, 8.4.5
Optimization	Book 2	Chapter 8	Easy: 8.1, 8.3
Lab Materials			Hard: All Labs