

## Project

Date Due: March , 2026

Total: 100 marks

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### Instructions

#### 1. Topics

##### (a) Option 1

Read and prepare a presentation from the textbook.

- i. Chapter 6 or 7.
- ii. Repeat instructions 2a and 2b for Chapter 8.

##### (b) Option 2

Read and prepare a presentation from other sources (other textbooks, published papers, web – applications, tools, computing standards).

Examples: New grammar types, special parsers, new parsing algorithms, interesting properties of context-free grammars, other tools for compiling, other format representations for compiler compilers, software tools.

##### (c) Option 3

A hot subject of your choice related to *modern* compiler design.

#### 2. Requirements

- (a) Prepare a 25 minute presentation for one of the selected topics (30 marks option 1/60 marks option 2 or 3)
- (b) Submit a 1-2 page summary of your presentation which highlights the main points covered in your talk. (10 marks)
- (c) Presentation (30 marks).

### Textbook Topics

#### 1. Chapter 6

- (a) Intermediate Code Generation
- (b) Sec. 6.6 Control Flow (Case Statements)

(c) Sec 6.7 Backpatching & Procedure Calls

2. Chapter 7 Run-Time Environments

(a) Sec 7.3 Access to Non-local Names & Parameter Passing

3. Chapter 8 Code Generation

(a) Sec 8.2-8.3 Target Language & Addresses in the Target Code

(b) Sec 8.4 Basic Blocks and Flow Graphs

(c) Sec 8.5 Optimization of Basic Blocks

(d) Sec 8.6-8.7 Code Generator & Peephole Optimization