



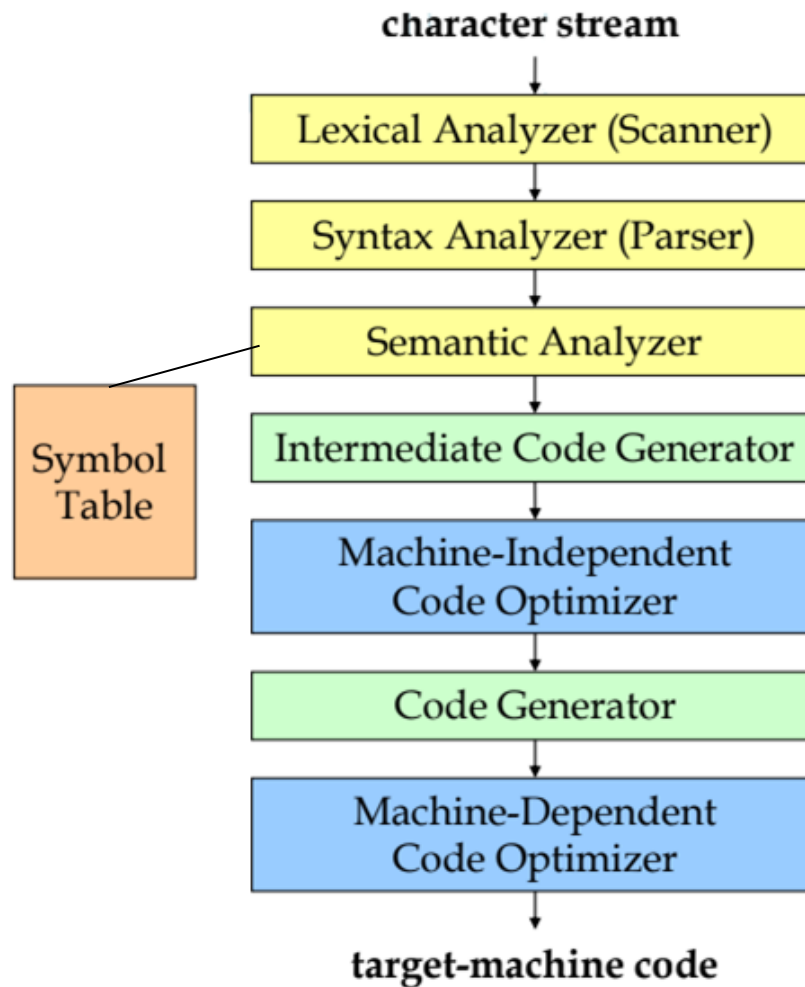
Compiler Construction

Programming Assignment 1

μ C Language Lexical Definition

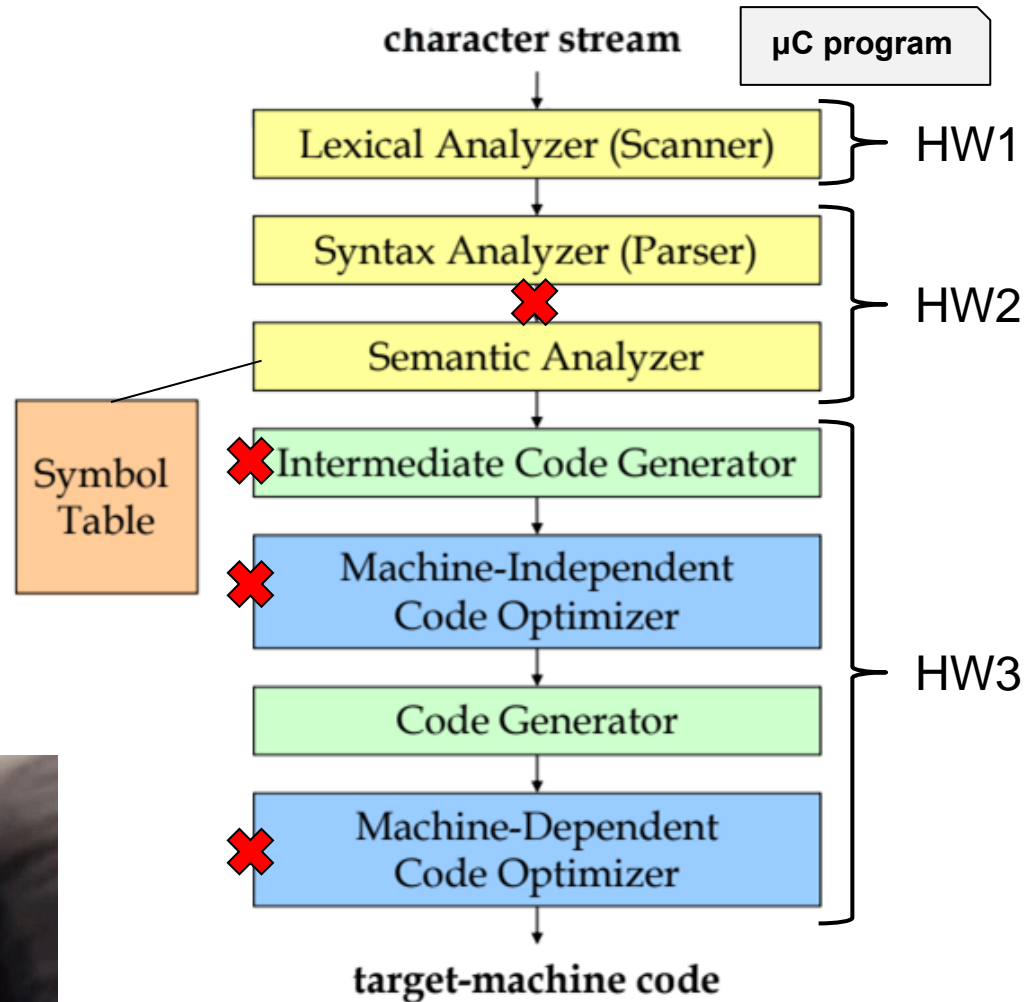


Project Outline





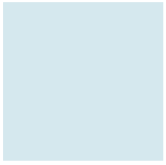
Project Outline





μC Language

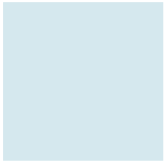
- Character Set
 - ASCII characters
- Lexical Definition (Token Definition)
 - Tokens that will be passed to the parser
 - Delimiters, such as () , ;
 - Arithmetic, Relational, and Logical Operators, such as + - > >=
 - Keywords, such as int, float, if, while and etc.
 - Integer Constants, such as 1, 123 and etc.
 - String Constants
 - **Identifiers**
 - Tokens that will be discarded
 - Whitespace, a sequence of space or tabs
 - **Comments**



Token Definitions: Identifiers

- **Identifiers**

- A string of letters and digits beginning with a letter
- Case of letters is relevant
- Keywords are not identifiers



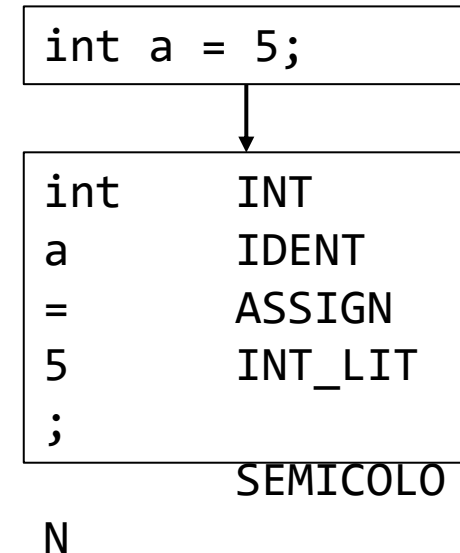
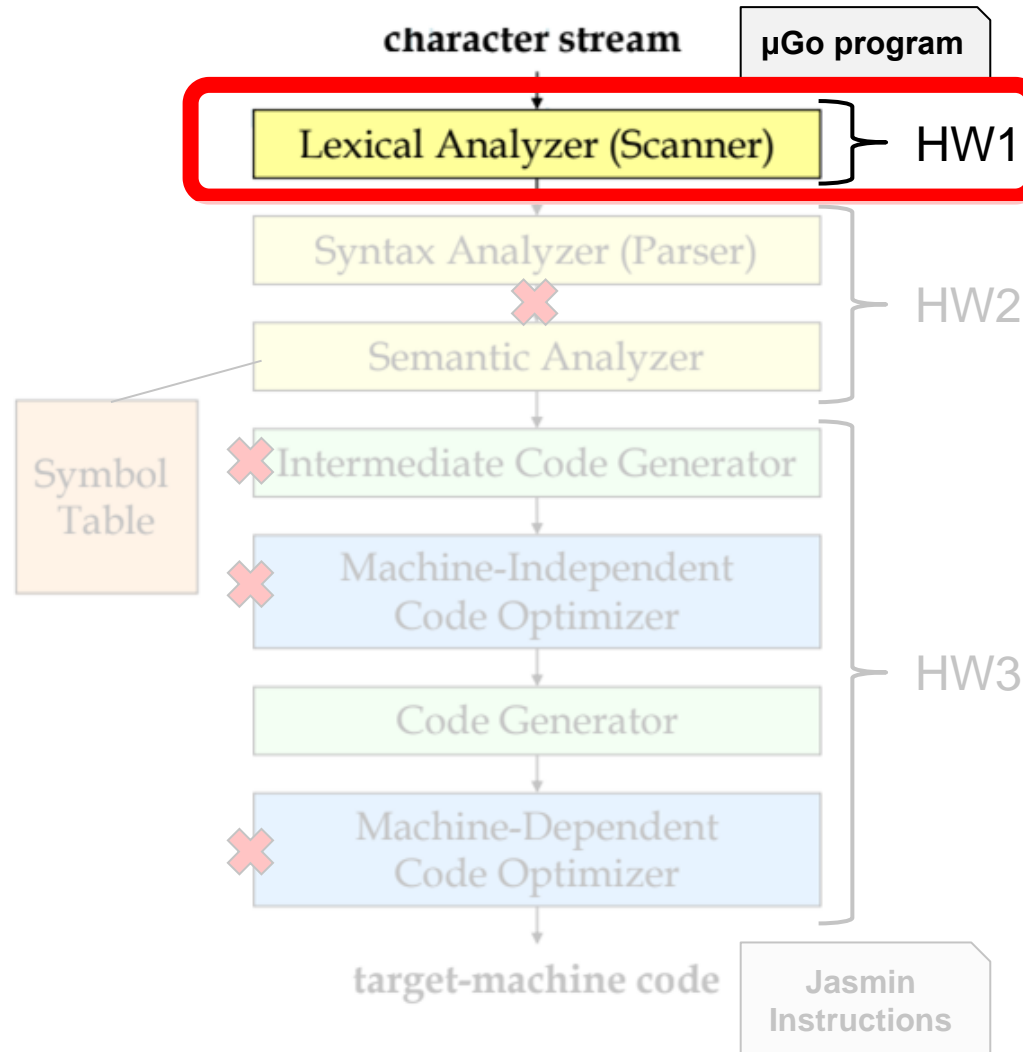
Token Definitions: Comments

- **Comments**

- **C-style** is text surrounded by “*/**” and “**/*” delimiters, which may span more than one line
- **C++-style** is text following a “*//*” delimiter running up to the end of the line



Project Outline





Assignment Requirements

- The total score is 105pt. (“0”:0 pt, “1”:30pt, “2”:50pt, ...)
- You can judge your code locally with the attached judger.

Sample	Accept
in01_arithmetic	✓
in02_assignment	✓
in03_declaration	✓
in04_relational	✓
in05_comment	✓
in06_if_else	✓
in07_for	✓
in08_while	✓
in09_function	✓
in10_print	✓
in11_overall	✓
Correct/Total problems: 11/11	
Obtained/Total scores: 105/105	

Your score after judge

```
// "Hard Coding" will get 0pt.
main() {
    result = read(answer_file);
    print(result);
}
```




Environment Setup

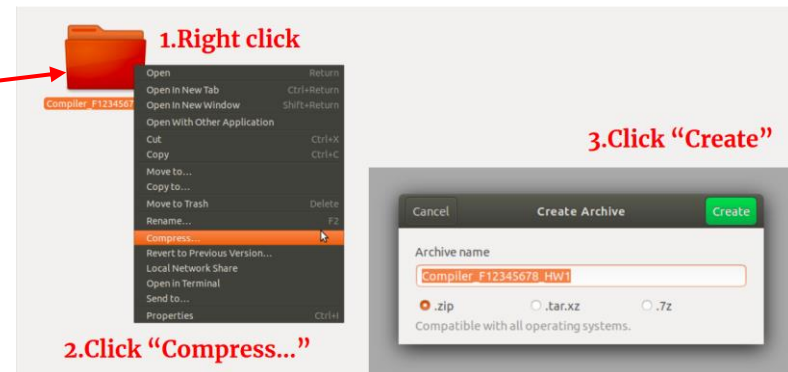
- For Linux
 - Ubuntu 18.04 LTS
 - Install dependencies : `$ sudo apt install flex bison`
- For Windows (VirtualBox)
 - You may like to install VirtualBox to emulate the Linux environment



Submission

- Upload your homework to Moodle.
- The expected arrangement of your codes:
 - Only .zip and .rar types of compression are allowed.
 - The directory should be organized as:

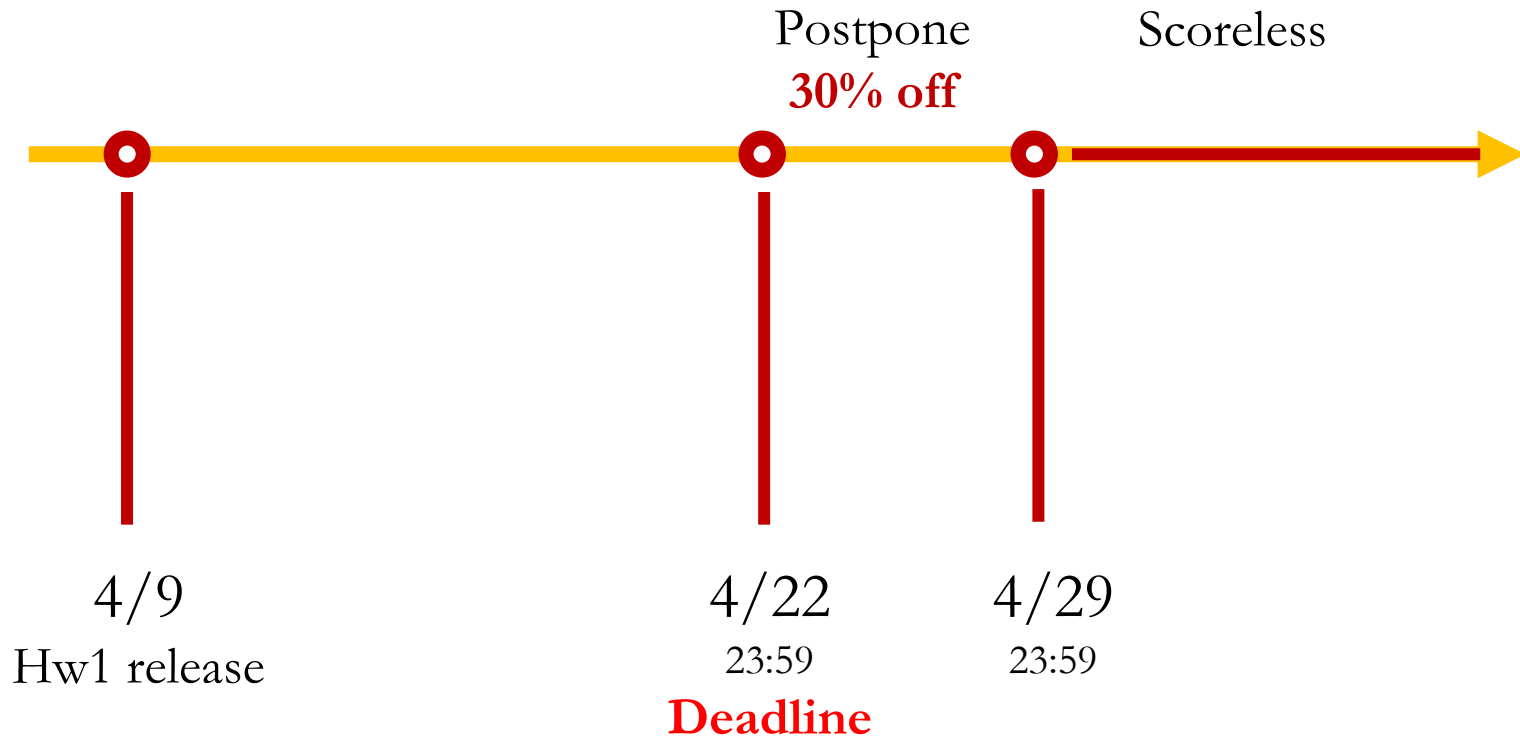
```
Compiler_StudentID_HW1.zip/
├── Compiler_StudentID_HW1/
│   ├── compiler_hw1.1
│   └── Makefile
```



- You will lose 10pt if your programs were uploaded in incorrect format!!!



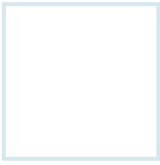
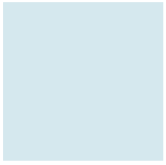
Deadline





How to Mail TAs

- Send mail to asrlab@csie.ncku.edu.tw, not any TA's mail!!
- Email subject starts with “[Compiler2021]”



QUESTIONS ?